The Robert Gordon University
School of Health Sciences

Self-Assessments Skills of Occupational Therapy Students

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Contents

I

List of Figures

II List of Tables

III Acknowledgements

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IV Abstract

Increasingly health workers are expected to self-evaluate within the work-place thus raising the question as to how they develop such skills. To date there has been very little research on self-assessment in higher education courses which prepare health professionals for their future careers.

The project aimed to investigate occupational therapy students' self-evaluation skills during their professional education and within their first work-place.

This practice based investigation was conducted by a member of academic staff in one of the two centres in Scotland offering a BSc in Occupational Therapy course. Data was collected from two different universities offering the course, the study period was the academic years from 1992 to 1996. Four different research tools were used; a content analysis of relevant course documents was carried out; 113 students and 15 academic staff were surveyed using questionnaires, with regard to their understanding and use of self-assessment within the course; self-grading of academic work by three cohorts of students (n=113) was conducted and fifteen graduates and workplace supervisors health care and social work were interviewed through the use of repertory grid interviews.

Self-evaluation was emphasised and strongly, linked to professional development, within the course documents of both universities. Students and academic staff identified clinical placements as the area within which, most commonly self-assessment occurred and developed. Students were generally positive with regard

to self-assessment being used within the academic components of the course, however, staff were more hesitant.

The students consistently under-rated their academic assessments although the majority were within a five-percent range of the experts' marks. One cohort of students did demonstrate an improvement in self-assessment over the three years but similar trends were not detected with the other two cohorts.

The repertory grid interviews produced a large number of constructs (507 constructs). It would appear that graduates are able to self-assess accurately within the work place, as there was high agreement between graduates and supervisors regarding the graduates' skills and abilities.

In conclusion this investigation indicates that there are discrepancies between course aims and objectives and the reality of self-assessment in the educational context. Although students have the opportunity to practice self-assessment within the academic situation they are limited in their ability to self-assess accurately. They are, however, very confident at self-assessing within the work-place. This confidence may be linked to the fact that as students self-assessments was practised during the clinical component of the course. There is a need for further research with more cohorts being followed throughout the length of their course and also cohorts within other courses.

1 Introduction

1.1 Rationale for the study

The work reported in this practice-based project arose through the author's interest in students' acceptance of responsibility for assessment of their own development. This related to the author's earlier clinical work, where increasing emphasis was being placed on the need for qualified staff to be able to self-appraise within the work-place. In addition, as a member of academic staff within the Department of Occupational Therapy, The Robert Gordon University, Aberdeen, the author was involved in preparing students for their first employment. Students, however, had difficulty in identifying and articulating their clinical strengths and personal qualities on job application forms. The ability to think critically is a key goal of many occupational therapy courses, yet little research has been conducted to establish the extent to which this is achieved.

This investigation adopted a practice-based approach. The principal justification for using such an approach 'is the improvement of practice' (French 1993). Practice-based research has been used more frequently within the medical professions and has relevance within the educational setting. In contrast to other approaches no attempt will be made to identify any one particular factor divorced from its practical context. The purpose of this practice-based research therefore is to confirm or to change current practice (French 1993). The process of moving new ideas from research to practice is long and cumbersome. New concepts need to be evaluated, replicated and refined, as too often the pace of change is set, not

by a rigorous process of review and refinement, but by a failure of new concepts to span the gap between the research community and the world of practice. Thus the situation in occupational therapy education offers an opportunity whereby research may impact on practice via the clinical component of the course and the close contact between clinical educators and researcher.

1.2 Aims of the study

This study explores how major developments within higher education and the occupational therapy profession have impacted on methods of assessment especially with regard to occupational therapy undergraduates' education. This investigation sought to determine the emphasis placed on self-evaluation within two occupational therapy courses and the extent to which students are able to assess their performance when compared with rating by lecturers. Further it attempted to establish abilities regarding self-assessment in the workplace, and the concordance between newly qualified occupational therapists and their supervisors regarding their performance.

The key research questions were as follows:

1. To what extent is self-assessment integrated within occupational therapy courses?
2. Are occupational therapy students able to assess themselves accurately and precisely?

3. Is there progression in self-assessment skills during the three years of the course?
4. Is there transferability of these self-assessment skills to the work-place?

2 Background

This section will outline the development of occupational therapy as a profession with the emphasis on the development of the training and education of practitioners within the profession from the time of the first course in Scotland (1936). The early courses were located in, and were under the aegis of health authorities. In the 1980s the education of occupational therapists moved into higher education and this brought the development of degree courses. An understanding of the nature of occupational therapy and its development is essential to locating self-assessment within current professional practice. The concept of self-assessment may be interpreted and viewed very differently by staff who were trained under different educational systems.

2.1 Early use of occupation / activity as treatment

Although occupational therapy as an independent profession only became established in the early part of the 20th century, the essence of the approach can be traced back to ancient times. Treatment by occupation may have a history dating back to 2600 BC when the Chinese taught that disease resulted from physical inactivity and used physical training to promote health (Hopkins 1988). In 2000 BC the ancient Egyptians dedicated temples to which melancholiacs retreated in numbers; games and recreation were organised and all '*patients*' time was taken up by pleasurable occupation (MacDonald 1949). The Persians in 1000 BC

recognised the benefit of activity in the training of young men for the army. Homer in 800 BC spoke of crafts, gymnastics, games, exercises *'for they divert the mind from its sufferings and sorrows and keep the body and mind in proper conditions and mood'.*

The philosophy and practice of occupational therapy by inference began with Hypocrites who recognised that the treatment of those who are diseased or handicapped in mind or body requires more than medication to effect recovery. Recognition of the importance of activity in treatment declined during the Middle Ages (AD 200-1250) until the founding of many of the universities of Europe (from AD 1100) which brought about a renewed interest in scientific study.

Development during 18th and 19th centuries.

In the 18th and 19th centuries there are records of occupation being used as a form of treatment in Italy, Spain, America and England. In 1786 Phillipe Pinel introduced work treatment in the Bicetre Asylum for the Insane near Paris. At the same time the English Quaker, William Tuke founded The Retreat in York, where one of the leading features was the introduction of employment for the patients (Hopkins 1988). Tuke also advocated the reduction in mechanical restraints for patients. The success of the work of Tuke in York led many physicians to follow his philosophy of 'Moral Treatment' and the 19th century saw the more widespread

acceptance of occupation and activity for the treatment of the mentally ill in particular (Hopkins 1988).

Moral Treatment

Moral Treatment, an idea founded in the philosophy that all people, even the most disturbed, are entitled to consideration and human compassion. Where previously the *'insane'* were confined and frequently abused, the Moral Treatment Movement sought ways to make existence of those confined more bearable. One of the ways used was through involvement in purposeful activity. Though use of the term 'moral treatment' declined by the mid-1800s, many of the concepts this movement had initiated persisted. It was from the humanitarian concern for each human being, and the use of structured activity to simulate a more normal life for the asylum inmates, that the practice of occupational therapy eventually emerged (Dickson 1990).

The later half of the 19th century also saw the emergence of various supplementary treatment services and professions leading to the formation of associations, training courses and recognition of examinations and qualifications. By the end of the 19th century occupational therapy was being practised, although in many different forms in the United Kingdom, Ireland, USA, France, Germany, Switzerland, Austria, Norway, Portugal and Belgium (Hopkins 1988).

2.2 Early developments of use of occupation in health care in Scotland

In England the best known centres were the Retreat at York and Hanwell Asylum St.Bernard's Hospital, Southall. In 1772, Dr William Cullen of Edinburgh wrote, "*I have been informed that some maniacs have been cured by being compelled to constant and even hard labour*". When the Glasgow Royal Infirmary (Gartnavel Royal Infirmary) was opened in 1815, two rooms were erected for patients' use, and spinning, knitting and sewing were used as occupation. By the late 1830s Dr W A F Browne (known as the father of occupational therapy in Scotland) had introduced such treatment at Montrose and later at Crichton Royal Hospital, Dumfries. The use of occupation as treatment was also to be found at Murray Royal Infirmary, Perth where facilities included a curling pond (Goundes-Peace 1957). A notable scheme introduced in Scotland in 1898-9 was the Brabazon Scheme at Woodilee Asylum, Lenzie. This scheme consisted of *'teaching infirm and crippled inmates of workhouses to employ their idle hands usefully'* and was managed by 12 ladies, each *'particularly gifted to teach some special subject'*. This seems to have been the prototype for other establishments in both mental and physical health fields. It has also been suggested that the inspiration for occupational therapy arose in America from a visit to the Brabazon Unit although this has not been confirmed (Groundes-Peace 1957).

2.3 'Occupational therapy' first used in 20th century

Towards the end of the 19th century, attention was once again focused on the use of occupation as treatment for the mentally ill. Over the first decade of the new century several courses were organised in America for nurses and social workers interested in this area of work. In 1908, a social worker from Chicago, Eleanor Clarke Slagle, enrolled on one such course. Her interest and enthusiasm for the concept grew over the years and later she organised the first professional school for occupational therapists in Chicago, becoming director in 1918, a position she held until 1922.

Many attribute the first use of the term 'occupational therapy' to Dr Dunton, an American psychiatrist, who wanted to establish activity as part of the treatment for his patients. However Dr Dunton in his 1915 book Occupational Therapy: A Manual for Nurses reports that George E. Barton was the first to use the term at a conference of hospital workers in America in 1914. The National Society for the Promotion of Occupational Therapy was established four years later in 1917 with Dr Dunton as one of the founder members (Viseltear 1977). This society, later in 1923, became the American Occupational Therapy Association, and from then onwards occupational therapy developed both in America and Canada. Dr D K Henderson introduced occupational therapy under that name in 1919 at the Glasgow Royal Mental Infirmary (Gartnavel Royal Infirmary). Miss Margaret (Peg) Barr Fulton appointed to the Royal Mental Hospital, Aberdeen in 1925, was the first qualified occupational therapist appointed in Great Britain, having trained

at Philadelphia. The occupational therapy training in Boston in the late 1920s was two and a half years long and included courses in crafts, anatomy, physiology, psychology and pathology. These were followed by practical experiences in orthopaedic and other hospitals. It was the 1930s however, before there was any real development of the profession in the United Kingdom (Groundes-Peace 1957).

Occupation for physical conditions

Whilst *'moral treatment'* was the catalyst for the development of psychiatric occupational therapy, the 1st World War was the impetus for the parallel development on the treatment of physical conditions. Although there were no 'occupational therapists' in the United Kingdom before or during the 1st World War, Sir Robert Jones demonstrated his appreciation of the philosophy of occupational therapy and persuaded the War Office to set up 'Orthopaedic Centres'. He wrote: *'those of us who have any imagination cannot fail to realise the difference in atmosphere and morale in hospitals where patients have nothing to do ... from that found where, for part of the day, they have regular, useful and productive work'.*

In 1916, Sir Robert Jones established a comprehensive series of workshops where the wounded could be treated. These workshops were located at Shepherd's Bush Military Orthopaedic Hospital, London and although they proved very successful, were closed after the war. Following on the success of the Orthopaedic Centres in London, similar Centres were opened in Edinburgh, Glasgow and Aberdeen.

Whilst there had been this increased interest in occupational therapy in the area of physical rehabilitation this 'spurt' was not maintained after the War and during the 1920s occupational therapy continued to be used mainly in mental hospitals (Manuel 1921).

2.4 The first 'Occupational Therapy' in Britain

Dr. D.K. Henderson introduced Occupational Therapy, under that name, into Britain at the Glasgow Royal Mental Hospital, later Gartnavel Hospital, in 1919. In the same year, at the Crichton Royal Hospital, Dumfries, a head attendant was appointed Supervisor of Men's Recreations. Dr D K Henderson, in 1924, read a paper on Occupational Therapy to a meeting of the Royal Medico-Psychological Association; Dr Elizabeth Casson, the first woman doctor to graduate from Bristol University, attended this meeting. In 1929 Dr Casson opened the first training course for occupational therapists in Britain. She had studied the work carried out by Dr Henderson and occupational therapists in America, where the patients were treated by the American trained occupational therapists to whom doctors referred them. Each patient's referral indicated whether they required to be stimulated, calmed or trained in some way, and written records of their progress were kept.

2.5 First British Training Centre opens

Initially, in 1929, Dr Casson opened a residential clinic for psychiatric patients; this became the base for the occupational therapy training school, which opened in

1930. Later, she opened a small occupational therapy department for patients with physical conditions at the Bristol General Hospital, which developed into the more extensive Allendale Curative workshop, where students could gain experience in treating patients with fractures and other physical conditions (Casson 1939, 1940; MacDonald 1955). Within a few years other schools were opened in London, Northampton and Exeter.

Occupational Therapy 1930 - 1940

The first officially recorded document on occupational therapy in England was A Memorandum on Occupational Therapy for Mental Patients published by the Ministry of Health and Scottish Office's Board of Control in 1939. A committee (including Dr Casson, and some other psychiatrists who had visited various hospital in Germany and Holland where extensive occupational therapy was being carried out) wrote it. The committee reported that by doing various occupations the patients' mental attitudes, physical health and habits were improved.

The main discussion in the Memorandum was about how occupational therapy could be implemented in England. The committee considered the possibility of the existing nursing staff being trained to do the work but concluded that it would be necessary to have a few people with special knowledge of advanced occupations and crafts including technicians or instructors as well as some occupational therapists. It was expected that the occupational therapists would know how to do the handcrafts, how to teach them to mental patients and how to instruct the nurses

in the applications of all aspects of occupational therapy including '*social habit*' training. It was advocated that occupational therapists should work directly under the doctor and independent of the matron, thus resulting in the separation of occupational therapy from the nursing profession.

2.6 Formalised training / education

There were two methods of training in England at the time of the Memorandum. One method was Dr Casson's course that followed the pattern of training in America and lasted two-and-a-half years. The other method was open solely to State Registered Nurses and was a six months' course at the Maudsley Hospital. In 1936 Colonel Cunningham, Medical Superintendent of the Astley Ainslie Hospital, Edinburgh invited Canadian occupational therapists to establish a training course in Edinburgh; this two-and-a-half year course was based on the Canadian syllabus. In 1936 the training school enrolled five students for a two-and-a-half-year course, two years of which were devoted to the study of suitable medical conditions and six months to clinical work in suitable hospitals. The syllabus was drawn up after careful study of similar courses in Canada, America and the Bristol School of Occupational Therapy. Six students enrolled for the course in 1938, and by the summer of 1939 four students from the first group had completed the academic component of their training and were awarded the Board of the Astley Ainslie Hospital's diploma and official badge of the school. The Board gained the support of the University of Edinburgh and the Education Committee of the Corporation of Edinburgh in the work of the Training Centre, thus obtaining

lecturers for a number of medical subjects and the Education Committee undertook the teaching of craft work.

The same year also saw the opening of the first purpose-built occupational therapy department in Scotland for the treatment of physical conditions. Although there was little active treatment available for the physically injured between the two World Wars, the advantages of treating patients recovering from fractures, by giving them remedial exercises and graduated work was increasingly recognised. During the 1930s, both the Government and the British Medical Association set up committees to report on the treatment of persons injured through accidents, and occupational therapy was seen as part of the necessary treatment process (British Medical Association 1935; Home Office, 1937, 1939).

2.7 Diploma in Occupational Therapy

The Scottish Association of Occupational Therapists was founded in 1932, and four years later a group of English occupational therapists formed the Association of Occupational Therapists which was later joined by the Welsh and Irish occupational therapists. The Association of Occupational Therapists ran the first final diploma examinations in 1938 and in 1939 the Board of the Astley Ainslie Institute, Edinburgh awarded the first diplomas in Scotland.

The Second World War resulted in significant developments both in physical and psychiatric rehabilitation. The Government developed 'the Emergency Hospital

Scheme', which was designed to facilitate the rapid return of injured personnel both to the fighting and civilian work force. The most comprehensive orthopaedic clinic had facilities for the medical treatment of the injured, as well as physiotherapy, remedial exercise and occupational therapy (Ministry of Labour 1942). In order to staff these units with occupational therapists quickly, the Association of Occupational Therapists established a series of shorter courses:

Occupational therapy auxiliaries: a modified course that could be upgraded to a full diploma later;

War Emergency Diploma: for those with previous qualifications, for example teachers and nurses;

The 1943 certificate: a partial qualification for mature people with useful training and experience (Hume and Locke 1982).

Two hundred and fifty people gained the War Emergency Diploma and 1943 certificate, of whom nearly one hundred upgraded their qualification to a full Diploma. These abridged courses were introduced to increase the numbers of qualified staff to the physical field in Emergency Service Hospitals, especially as a wartime measure.

This rapid expansion of personnel had considerable influences on the growth of occupational therapy as a profession. The newly-formed Association found itself and its members called upon to participate in the Government's services in such a way that the experience of the already existing members, and recruitment to the profession, were increased to a far greater extent than if there had been no war.

National Health Service 1948

It was significant for occupational therapy that when the National Health Service came into being the British Medical Association's Committee on rehabilitation had recognised occupational therapists, and that occupational therapists were already working in both physical and psychiatric hospitals. This meant that when the Cope Committee was set up in 1949 to consider the supply and demand, training and qualifications of selected medical auxiliaries employed in the National Health Service, and to make recommendations, occupational therapists were among the medical auxiliaries considered. Occupational therapy was defined by the committee as 'any work or recreational activity prescribed and guided by a medical practitioner for the purpose of furthering recovery from disease or injury.' The committee endorsed the need to develop the work of occupational therapy and thought that many types and grades of people, including specialists in art, crafts, and music could be recruited and trained. In addition other activities should be used, partly as they saw the field of occupational therapy as wider than that for which student occupational therapists were trained.

The recommendations of the Cope Committee (1951) would eventually lead to the passing of the Professions Supplementary to Medicine Act 1960, which was:

> *"to provide for the establishment of a council, boards and disciplinary committees for certain professions supplementary to medicine: to provide for the registration to members to those professions, for regulating their professional education and professional conduct and for cancelling registration in cases of misconduct"*.

Since the inception of the National Health Service and the report of Cope Committee (1951) considerable changes have occurred within occupational therapy which are related to the changing pattern of disease, the numbers of elderly people in the population, the shift to community services, the improved facilities for psychiatric patients, and in particular the development of psychotropic drugs in the mid-1950s. These changes have resulted in occupational therapists developing training programmes for the disabled in activities of daily living, making splints, being members of therapeutic communities, using group and industrial therapy in psychiatry, and an increase in the numbers of domiciliary occupational therapists. Occupational therapy during this period was firmly established within the *'medical model'*. Colson in 1945 defined the aims of occupational therapy in purely physical terms. He stated that the aims of occupational therapy were: conservation of muscular function, strengthening of weak muscles, mobilising of stiff joints, re-education of neuromuscular co-ordination in the hand, and, teaching the normal use of the affected part.

In regard to the holistic approach encapsulated within the philosophy of occupational therapy Colson did, lastly, say that it also aimed '*to encourage the patient*'. A year later, in 1946, Howarth and MacDonald wrote that the occupational therapists were to carry out treatment on prescription from the medical officer only. In the same year they divided the discipline into two branches defined as:

> General; this was where some form of occupation was necessary, for example where a patient had to remain in bed for a long period, in order to prevent depression and to maintain his morale.
>
> Special; this, by contrast, was carefully selected and prescribed treatment which had some remedial purpose in view.

This can be seen as the separation of occupational therapy into 'diversional' (general) and 'therapeutic' (special) branches. As 'special' occupational therapy was restricted to 'workshops', and 'general' occupational therapy restricted to long-term, bed-bound patients, the second image of occupational therapy as diversional was the more public one and became firmly established as the main component of the profession in the eyes of other patients, hospital staff and the general public.

2.8 Impact of practice changes on education of occupational therapists in Britain

The Association of Occupational Therapists endeavoured to keep abreast of these changes and over the years revised the syllabus for the diploma, notably in 1954 when under the previous regulations there were two qualifications, one in psychiatric work and one in physical work. These were discontinued and one qualification covering both fields of work was substituted that year.

In 1960, the Association of Occupational Therapists initiated two surveys on *'the present practice'* and *'future function of occupational therapists'*. Following these surveys the Council of the Association of Occupational Therapists set up the Advisory Board Sub-committee to look into the basic problems with which the Association was faced. The sub-committee's recommendations demonstrated that they recognised the need for a total re-assessment of the educational structure of occupational therapy. The most important outcome was that the Council of the Association of Occupational Therapists decided to set up a series of working parties to collect factual information about the profession. The sub-committee recognised the need for changes in the syllabus especially in relation to the practical skills taught, and the need for more post-graduate work and research. The report also emphasised that clinical practice should be an integral part of the whole training. Until this point, clinical practice was completed after the students had completed the academic component of the training and had taken their final examinations. The schools approved to prepare students for membership of the

Association of Occupational Therapists but should be left considerable freedom to programme the details of the course. Highlighted also was the importance of recruiting better qualified tutors in the schools. These findings were based on a survey of occupational therapists and evidence from professional bodies including the British Association of Physical Medicine and the Royal Medico-Psychological Association.

The Scottish Association of Occupational Therapists which had become the examining body for the courses in Scotland awarded the first Diplomas of the Scottish Association in 1965 and were based on the objectives in the national handbook. The Scottish Association of Occupational Therapists course leaflet "Diploma in Occupational Therapy" states that:

'The Occupational Therapist must be able to understand physical illness and disabilities and psychiatric disorders. Understanding of the inter-relationship between fields of medicine is also essential for the aim of occupational therapy is to promote health and to rehabilitate by considering the 'whole man'. This involves a sound knowledge of the principles of rehabilitation medicine, and the ability to plan and implement therapeutic programmes that will help to develop social competence and work study.

Education in Occupational Therapy aims at preparing practitioners some of whom may, after further study, become clinical supervisors, teachers and research workers for the profession. It is therefore desirable that the abilities involved in teaching, leadership and management, as well as an interest in

continuing post-registration education, should be sought for and developed during the basic course of study'.

The core programme in 1965 included:

Occupational therapy

Therapeutic techniques and skills including communication and interpersonal relationships, assessment, treatment planning and treatment, including personal care, home economics, light work (clerical work, light assembly work), heavy work (woodwork, metal work and gardening) creative work and craft work (art, drama pottery and weaving) recreational and social activities.

Further skills - use of equipment, aids and appliances, architectural plans

Management - work study, administration and records, committee procedure

Clinical practice

Students should gain experience in working in areas having particular relevance for occupational therapy in both physical and psychological medicine. (Minimum of 1200 hours)

Biological and Behavioural Sciences

Anatomy and physiology; Kinesiology; Psychology

Medical Sciences

Medicine; Surgery; Psychiatry and Clinical and Demonstration

The Examination Procedure for the award of the Diploma of the Scottish Association of Occupational Therapists was by successful completion of the "First, Second and Third Professional Examinations" (at the end of each academic year), together with the independent reports from at least four Clinical Supervisors on the students' Practical Application of Treatment Procedures. The Examination Committee of Scottish Association of Occupational Therapists nationally set the professional examinations for the training centres in Scotland. A similar system existed in England.

The Association of Occupational Therapists set up a working party under the chairmanship of W. Allen Gay with the remit 'to consider and to recommend the Councils of the [Scottish and British] Associations policy regarding broad principles of the structure of the syllabus and examinations for the future training of occupational therapists in the United Kingdom'. The working party reported its findings in 1973 and stated that:

"occupational therapy has become so well established as a professional discipline that it should be emphasised as being the core study of the programme".

The development of occupational therapy courses has been erratic over the past 60 years. In 1977 - 78 there were fourteen courses, of which two had started as recently as 1976. Five schools were privately owned and included the oldest and largest, five others were supported by the National Health Service and the four newer schools were in educational settings. These fourteen schools offered a total of 650 places (Stewart 1979). These schools offered courses based on predetermined set of objectives and syllabus which prepared students for the College of Occupational Therapists National Diploma Examinations. The schools' staff were restricted by the demands of having to prepare students for the centrally controlled examinations based on the objectives stated in the national handbook.

2.9 Diploma '81 course

Following the Gay Report in 1973 there were a series of committees involved in working out proposals for a new syllabus and methods of examination. The new syllabus was designed as a guide rather than a fixed list and left the Training Schools free to devise innovative courses according to their own strengths and philosophies. The courses, once validated, would be examined internally by each School, thus phasing out the national examinations. The main emphasis of the new course was that students should experience more self-guided learning and 'stand on their own feet' academically, rather than being force fed with information in order to meet the requirements of nationally, centrally directed assessments devised by the College of Occupational Therapists. This became the new 'Diploma Course

1981' syllabus and would allow schools not only to create their own curriculum but also to assess their own students. Thus school staff could now design courses and implement decisions about methods of teaching, select procedures for monitoring learning and, through assessment, measure a student's performance to ensure that required standards were achieved. As a result, skill, knowledge and ability developed over the ensuing years to such an extent that the responsibility for education became school centred rather then nationally controlled.

The Diploma '81 courses allowed scope to build in a variety of types of assessments, each with a different value to the learner, from short answer tests to extended essays. The emphasis in training also changed to encourage students to have responsibility for their own learning and independence of decision making, for example having a degree of choice within the course options. It is implicit in this approach that more importance is placed on how as opposed to what is learned.

The College of Occupational Therapists 'Diploma '81' course objectives state that the course should:

> *'give the students sufficient appreciation of the normal and abnormal development and function of the body and mind to enable then to interpret referrals, to determine appropriate treatment and to carry out and monitor progress or treatment. Consideration should be given to the problems of the young and the old and the process of development and ageing'.*

It also required the student to:

> gain proficiency in a variety of activities and techniques and analyse and use them as appropriate;
>
> develop their personal understanding and skills in the treatment and handling of individuals and groups;
>
> gain an appreciation of management principles and practice so as to promote the effective organisation and management of an occupational therapy service.

Schools, such as The Grampian School of Occupational Therapy (now part of The Robert Gordon University, Aberdeen) translated these objectives within their own course documents as:

> *'The aim of the course is to prepare competent and confident practitioners to provide a service directed towards the prevention, reduction and elimination of incapacity resulting from physical and psychosocial disability.'*

A working party of representatives of the College of Occupational Therapists and of the Occupational Therapists of the Council for Professions Supplementary to Medicine was set up in November 1977 in order to write a proposal for the

Diploma '81 syllabus, which required the approval of the Privy Council. Salford College of Technology was the first School to move onto a Diploma '81 syllabus and system, changing to this method of training with the 1981 intake of students. The last intake of students under the old nationally examined system was in 1985 and by 1986 all training Schools were validated under 'Diploma course 1981' (Barnitt and Adams 1983).

The training of occupational therapists which had remained static for 20 years changed very quickly over the next five years; the schools struggling with Diploma '81 syllabus, Institutes of higher education developing courses in occupational therapy, and the identification of the need for a degree programme (Education Board College of Occupational Therapists 1983).

2.10 BSc in Occupational Therapy

The Council for Professions Supplementary to Medicine's document 'Future Education and Training of Occupational Therapists' published in 1972 contained the following statement: '*The object of the basic professional course must be to fit a student to practise at a basic level and to stimulate enough interest to encourage practitioners to continue to study throughout their professional career*'.

However, while the Diploma '81 course addressed the first part of the statement the College of Occupational Therapists and training schools had perhaps lost sight of the latter part of the statement. The Report also maintained that ... '*the extent and*

depth of knowledge which an experienced practitioner will need can certainly not be acquired during a three year course.'

In 1983 the Education Board of the College of Occupational Therapists claimed that occupational therapy had changed to such an extent that a newer and higher level of education and training was required. This claim was in response to the changes that were taking place within the whole pattern of medical care during the 1980s. Many of the older professions were having to develop new skills and new professions were 'growing-up' fast. Occupational therapy had not escaped the trend towards more scientific, complex forms and techniques of care and treatment. Whilst the changes resulting from Diploma '81 had resulted in a flexibility to the curriculum there was still a tendency for material to be presented as pure fact to be learned, rather developing questioning skills to interpret data. This was leading to intellectual rigidity and to an uncritical compliance with current practices that was hindering development and growth of the profession. There was pressure for more occupational therapists to become involved in research and to develop a more scientific approach to practice. The working party argued that to ensure occupational therapists of the future were prepared for the new pattern of health care, the new theoretical demands, and to enable them to play their full part in medical care treatment, higher education was essential for all therapists.

There was an urgent need for a change of emphasis so that the fundamental principles of occupational therapy were presented to the student together with

sufficient time and freedom for self-directed study to explore these principles. This style of education is characteristic of degree level studies.

In 1983 the Council for Professions Supplementary to Medicine accepted in principle the College of Occupational Therapists' 'The Case for a Degree in Occupational Therapy' paper and supported the College of Occupational Therapists in the development of degree programmes. Although there were no degree courses in England due to Government restrictions, the first unclassified three year degree programme started in Edinburgh in 1986 and a four year honours programme started the same year in Ulster. These led the way for others and by the year 2000 all courses in occupational therapy will be at degree level, with many colleges offering 'end-on' programmes for Diploma holders to up date their qualification to degree status.

The degree courses challenged the professional and workplace needs with new aims being written to demonstrate the change in emphasis within the courses. The Robert Gordon University, Aberdeen, Department of Occupational Therapy's Definitive Course Document states:

'The overall aim of the course is to prepare students for the professional practice of occupational therapy and for life-long professional development. This requires a wide range of professional, interpersonal, cognitive and psychomotor skills not only to meet current needs but also to contribute to and adapt to innovation in response to demographic, social and economic change'.

As more and more schools of occupational therapy moved into institutions of higher education, Busuttil (1989) observed that more emphasis was being placed on themes not individual subjects, problem-solving approaches were being adopted, and an holistic overview of the treatment process was being used. Students became active participants rather than passive recipients with opportunities for self-directed learning, problem-based learning and regular consultation. Students were encouraged to develop an enquiring mind; they were not expected to cram facts but to think progressively.

This background section has traced how occupational therapy education has developed over the last 75 years but more importantly it illustrates how much it has changed over the last 20 years with the move into higher education and the introduction of degree courses. This has led to more autonomy for staff both in goal-setting and determining methods of teaching and learning. However it is difficult to gauge the extent to which students have become autonomous in the learning process.

There has been an increase in the past five years in the number of reports on the adoption of self- and collaborative assessment methods generally, not just in courses using autonomous learning approaches but also in more traditional settings (Boud 1995). There is a need therefore to examine assessment practices within

occupational therapy education with particular emphasis on self-assessment both within education and within the work-place.

Several occupational therapy teaching staff, are becoming concerned about the inhibiting effects of assessment on the development of life-long learning and are moving away from traditional teacher-controlled forms of student assessment towards forms of assessment that place greater responsibility in the hands of students. They argue that the whole idea of autonomous learning in occupational therapy courses is undermined if assessment is determined by staff (Warrender 1990; Westmorland 1994; Smith 1995; Jacobs 1997).

There is a need therefore to examine assessment practice in occupational therapy education, with particular emphasis on self-assessment, both within education and within the work-place which is the focus of this study. It is hoped that as the researcher was an occupational therapist working within the profession that the research will be able to influence practice directly.

3 Assessment within Higher Education

This section of the thesis will initially examine traditional models of assessment and its effects on students learning generally within higher education including assessment within occupational therapy courses. It will proceed to consider alternative methods of assessment including self-assessment and the extent to which they have been adopted.

3.1 Introduction

In recent years, there have been a number of developments in the field of educational policy and practice that have influenced assessment practice. Both major political parties are committed to the expansion of higher education provision. Many other groups, of all political persuasions, advocate increased access to higher education. In 1986, the White Paper Working Together - Education and Training committed the Government to expanding participation rates in higher education. The White Paper Higher Education: A New Framework 1991 reinforced and extended this aim. These White Papers, however, did not seek to provide more students with academic qualifications, but rather set out to produce a large body of graduates equipped to deal with the demands of a rapidly changing working environment. According to the 1991 White Paper, students were to emerge from higher education possessing 'core skills' for example the ability to communicate readily and to think critically, that were transferable to a range of work situations and contexts. The Department of Employment's

'Enterprise in Higher Education' initiative aimed to develop 'enterprise' skills in graduates. The Royal Society of Arts Education for Capability programme set out to foster similar types of skills. Many would argue that these 'transferable skills' have been inherent in the occupational therapy curriculum for many years and are indeed the 'core skills' of occupational therapy (Alsop 1993; Hollis 1993).

Alongside this, educationalists have been paying increasing attention to the way subjects are taught. Evidence suggested that the traditional lecture/seminar format of teaching, learning and examination within higher education were not the best way to increase the knowledge and skills of students (Rowntree 1987; Boud 1989). Boud (1989) argues that there should be more emphasis on 'learner' centred approaches to teaching and learning - and a focus on what the student is able to do, either at the end of a programme of study, or as the result of learning acquired in the workplace or elsewhere, as opposed to the previous emphasis on the 'aims of the course'. The occupational therapy profession has always recognised the importance of work-based placements and has a statutory requirement that students complete a minimum number (1,000 hours) of assessed work-based hours prior to taking a final qualifying examination. Students may not receive the award of "competence to practice" if work-placements have not been completed successfully.

There is a need, therefore, to examine assessment practices to identify if they are compatible with the academic goals and more generally the goals of higher

education (Beard & Hartley 1986). There is a need to ensure that assessment practices do not contradict educational values and ideology. Unilateral control and assessment of students by staff means that the process of education may be at odds with the aim of many courses. It is believed that the objective of the educational process is the development of an educated person, but how can an educational process which is so controlled by others seriously aim to have as its outcome a person who is truly self-determining (Boud 1989)? As stated in the recommendations of the World summit on Medical Education (1993): '*Students should be valued partners at every level of medical education: planning of objectives, medical school governance, curriculum, teaching and evaluation'.*

3.2 Assessment

In learning, as in life, assessment has many dimensions, ranging from the broad general types of assessment to something which has a very specific meaning and function: *to measure achievement / acquisition of knowledge* in some way. Assessment should be an integral part of the learning process and as such there should be a variety of different types of assessments to reflect the different aspects of learning (Beard and Hartley 1986; Rowntree 1987).

Assessment is an all-embracing term and covers all of the situations in which some aspect of a student's education is, in some sense, measured, whether this measurement is by a teacher, an examiner or indeed by the student. Assessment is

often equated with tests and examinations. This is misleading, since neither is essential to assessment. A test is a particular situation set up for the purpose of making an assessment; while an examination is simply a large-scale test, or a combination of several tests and other assessment procedures (Docking 1991).

There would appear to be discrepancies between what academics teach and what happens in other aspects of professional practice. This would appear to be particularly noticeable in the approach to assessment. Academics place high value on critical analysis in the work area general, but are not so critical with respect to assessment practices. There is often disparity between what the academics require of students in assessment tasks and what occurs in the work place, whether it is the public sector, commerce or industry, or academia. Regrettably, there would still appear to be greater emphasis placed on memory and working under unrealistic time constraints. Arguments may be made about special features of learning compared with the world of work, which would justify the difference, but these do not feature highly in typical discussion of assessment practices or are often presented as unrealistic exaggerations of work. There are often gaps between what the academic encourages students to focus on and what is required for meaningful learning to occur. This may be apparent in the discrepancy between the high number of course objectives and assessments tasks, which require the reproduction of standard forms of argument, and the viewpoint adopted by the lecturers. Meaningful learning is more likely to occur when students engage with

the subject matter for its own sake and not as a response to an extrinsic demand (Boud & Tyree 1979)

3.3 Assessment and learning

There are two main functions of student assessment. The first is intended to improve the quality of learning where students engage in the problems and discourse of a given area and are given encouragement and feedback on what they do, as appropriate, with a view to them becoming more effective in their learning. This is *formative assessment*, or assessment for learning. The second purpose concerns the accreditation of knowledge and performance. Students are assessed to certify their achievements. This occurs primarily for the award of a degree or diploma, though various components of assessment are usually taken into account in making this judgement. This is *summative assessment*, or assessment for the record. The present influence of the professional bodies cannot be ignored and most professional educational courses/training retain the 'qualifying vehicle' in the form of a final written examination as a method of determining the student's competence to practice. This is also true of the education of occupational therapists.

In both above instances judgement is involved, but in the first it directly serves the needs of the student and in the second it primarily serves the needs of the external world. Assessment contributes to motivation through the recognition of

achievement (Rowntree 1987). However, the relationship between certification and motivation is a complex one:

> *'It is more difficult to be frank and honest in an assessment that closes an era than in one that is designed for future improvement because as it is a permanent record the individual has no opportunity to redress any stated shortcomings' (Docking 1991).*

Whilst there may not be a current public debate about education, over the past 20 years interesting literature has emerged on the relationship between assessment and learning. Teachers however, in facilitating learning, have found the need to reconcile the role of enabling learners to identify and meet their own learning needs with having to meet the demands of a rigid assessment process.

The second problem in formative assessment is that the information gained does not allow for the identification of future learning goals. This means that two of the central purposes of assessment: *to motivate and give feedback to both learner and teacher, are often lost in the course of formal assessment of the student* (Beard & Hartly 1986).

3.4 Background to assessment of learning

The term 'assessment' derives from the Latin 'to sit next to' and assessment in higher education remains strongly influenced by the form in which it originated, namely the master-apprenticeship of much earlier times where the 'master' would

both teach and examine his pupil. As time went by, the growth in numbers of students produced a situation where colleagues were teaching essentially the same things to different groups of students, which produced the need for all students to be assessed in the same way (Heron 1993).

The prevailing model for assessing student work in higher education is an authoritarian one (Heron 1993). Staff exercise authority: they decide what students should learn, they decide the programme of learning, they determine criteria of assessment, and they make the assessment of the student. Generally the student does not participate in decision-making about the learning objectives or learning programme, nor in setting criteria and applying them in assessment procedures. The student is the subject of the authority of an academic society which has the power to exercise a very high degree of social control on the application of intelligence and on future social prospects, by academic grading (Heywood 1993). This 'assessment-led curriculum' contrasts markedly with the opposite concept of 'curriculum-led assessment'. The latter describes a curriculum that is planned from educational principles, with the assessment components developing logically out of these principles (Quinn 1988).

The aim of many higher education courses, including occupational therapy is for the student *'to become a self-directed learner, recognising personal educational needs, selecting appropriate learning resources and evaluating progress'* (Boud 1989). In order to graduate, students must meet this as well as the other

objectives; student autonomy in learning is therefore not an option but a requirement. Many of the objectives are general and descriptive, and do not specify any core content or factual requirements.

Unilateral control and assessment of students by staff means that the process of education is at odds with the aim of many courses. It is believed that the objective of the educational process is the development of an educated person: that is a person who is self-determining, who can set personal objectives, devise a rational programme to attain them, set criteria of quality by which to assess the work produced and assess the work in the light of those criteria - in fact all that is ascribed to and hoped for from the ideal professional. The professional bodies, comprising of individuals who have been through traditional courses themselves and who may remain mainly concerned with the status of their vocation, determine the curriculum for the courses. The curriculum imposed by the professional bodies may not necessarily be related to the real needs of the job (Cornwall 1993). This traditional educational process would appear not to prepare the student to acquire any of these self-determining abilities. In many instances, the staff do it for or to the students. *'An educational process which is so determined by others cannot seriously intend to have as its outcome a person who is truly self-determining'* (Boud 1989).

At present continuous assessment often contributes a significant percentage to the final assessment, as well as the final examination - in which case the second

purpose pervades the whole course. The traditional focus in both instances is entirely on what the student does with the content of the course (Rowntree 1987).

3.5 Occupational therapy educational assessment

Occupational therapy education is aimed primarily at developing a therapist who is competent to practice, so it is self-evident that such a system requires means of ascertaining whether or not competence has been acquired. The Council of Professions Supplementary to Medicine (CPSM) has the responsibility for issuing a Registration to Practice Certificate and assessment provides the evidence upon which such a decision is made. Although extremely important, this is only one aspect of the role of assessment in occupational therapy education.

Assessment can also provide information about the effectiveness of the curriculum and may serve as a source of feedback to the individual about progress made. Some would claim that assessment acts as a motivator for students, while others would argue that it is a major source of stress within the educational system (Heywood 1993). However, it appears certain that assessment in some form or other will remain a fundamental part of any professional educational system for the foreseeable future (Beard and Hartley 1986; Rowntree 1987). This means, therefore, that occupational therapy educators will need to constantly monitor assessment procedures to ensure their continuing appropriateness to the current curricula.

Assessment, necessarily, forms an important element of the occupational therapy curriculum but there is a real risk that it may actually dominate it. This was the situation in occupational therapy education with the nationally set examinations of the Diploma in Occupational Therapy prior to Diploma '81. The whole educational system was dominated by the assessment, with consequent restrictions on innovation and creativity (Gay 1973).

3.6 Alternative approaches

The limitations of the present forms of assessment in the context of the provision of student feedback have been examined. In addition the tension between the unilateral control of assessment by teachers and the goal of development of self-determining graduate has been outlined. It would appear to be easier to criticise assessment than to offer alternatives; but there is a small but sound indication of way in which progress might be made to address one of these issues that have been identified: namely that many present assessment practices do not equip students for the skills needed in the world of practice. This way may also provide partial solutions to some of the other problems of assessment.

If current assessment practices are failing through a lack of appreciation of practice-based research and of the way in which students respond to assessment tasks, then steps need to be taken to disseminate good practice and monitor the effects of assessment of students on the validity of the techniques used. In addition there needs to be an evaluation of the extent to which assessment practices

encourage meaningful learning and the development of an appreciation of the central concepts in a given area, and on the perceptions students have of factual assessment. The latter is especially important, as it is students' perceptions of assessments which govern their performance rather than what teachers believe they are testing (Beard and Hartley 1986; Rowntree 1987).

Consequently with regard to occupational therapy education, there is a need to examine assessment tasks to identify if they reflect adequately the decision-making processes which are required of the practitioner in any given field of knowledge. Even if they satisfy all other demands they may still provide an inadequate foundation for future work in a given area..

As described earlier most assessment techniques have been developed for courses in which teachers, and the external accrediting body, determine the goals, the curriculum and the ways in which students are tested. While there is a growing body of knowledge about alternative methods of conducting courses in higher education (Boud 1988), much less has been specifically written about alternative methods of assessment. There is a need for the range of strategies in this area to be extended to match the innovations that are occurring within teaching and ensure that these are not undermined by unsuitable assessment practices.

3.7 Effects of assessment on students

Researchers investigating student learning have taken a great interest in the effects of assessment on learning. There have been a number of notable studies over the years that have demonstrated that assessment methods and requirements have a greater influence on how and what students learn rather than any other single factor. This influence may well be of greater importance than the impact of teachers or teaching materials. Becker's (1968) intensive study of medical students in an American university clearly demonstrated a group of students whose view of the curriculum and their academic work was tempered heavily by their perceptions of assessment requirements. Miller and Parlett (1974) have shown also that many students in a variety of subjects at the University of Edinburgh adopted an instrumental approach to studying, and picked up cues from staff about what was to be examined in order to identify where they should devote their energies. Ramsden (1984) stressed that it was the students' perceptions of assessment that influenced their behaviour. It was not simply a matter of teachers designing an assessment scheme which they believed would help promote an independent approach to learning; students must believe this to be so and determine that a deep or autonomous strategy on their part was rewarded. Elton and Laurillard (1979) reported that assessment tasks that were seen to require deep approaches to learning discouraged students from using 'reproducing' strategies. Students may see assessment practices as a threat. Marton and Säljö (1984) discussing the study by Fransson (1979) reported that when students perceive themselves to be under threat they resort to surface approaches to learning.

Many teachers, concerned about the inhibiting effects of assessment on the development of autonomy, have moved away from traditional teacher-controlled forms of student assessment towards forms that place greater responsibility in the hands of the students. It could be argued that the whole notion of autonomous learning is undermined if assessment is determined unilaterally by staff. As Rogers described it:

> *'The evaluation of one's own learning is one of the major means by which self-initiated learning becomes also responsible learning. It is when the individual has to take responsibility for deciding what criteria are important to him, what goals must be achieved, and the extent to which he has achieved those goals, that he truly learns to take responsibility for himself and his direction.' (Rogers 1983)*

There has been an increase in the past ten years in the number of reports on the adoption of self- and collaborative (peer) assessment methods, not just in courses using autonomous learning approaches, but also in more traditional settings (Boud 1988). Although research on these approaches has been fairly limited to date, there has been a growth in the range of methods of assessment used which involve students as individuals or in learning groups in the assessment of their own work. Studies of these methods have identified issues which should be addressed by those attempting to implement them, such as: the importance of a clear rationale for self-assessment, how to address apparent resistance by students and at what stage in courses self-assessment can profitably be introduced.

The final area of research which has important ramifications for student autonomy is that concerning how students change and develop over time, how their views of the world influence the ways in which they conceive their learning and of particular relevance to consider and how development as a member of a profession such as occupational therapy affects learning (Kelly 1994).

This section has reviewed the use and purpose of assessment generally within higher education, the main section of the literature review will now examine the development and use of self-assessment within education and the use of self-assessment within the work-place.

4 Literature Review

This main section of the review will initially examine self-evaluation within higher education, its use within professional development and the medical profession in particular. The use of self-rating within assessment will also be considered and the use of self-assessment within the workplace will be explored, together with its relevance to the occupational therapy profession. Finally the review will critically appraise research carried out with regard to self-assessment.

4.1 Introduction to self-evaluation

Over recent years a theoretical base for self- and professional development has been emerging. This development has occurred at two levels. The first involves consideration of what competent practitioners do, the variety of knowledge they possess and deploy in their work, and the nature of the relationship this has to the courses which prepare students to become practitioners (Sinclair 1994). The second concerns the design of courses that acknowledge the nature of professional competence and provide opportunities for students to engage in activities which deliberately provide for development. Donald Schön has written widely in the areas of reflective practice within different professions (Schon 1983, 1987). He provides convincing arguments for the proposition that a vital element of competent practice, in whatever vocational field, is that of reflection-in-action; that is, the ability of practitioners to monitor their own performance, and make

accurate judgements regarding future needs and strategies, drawing on both their implied knowledge and technical skills.

Schön (1987) identified that academic staff universities traditionally gave privileged status to systematic, scientific knowledge. It is this that they assess, in their own way and which may lead students to false impressions about the nature of the practices in which they will engage. He goes on to describe ways in which professional courses might be adapted to take account of his concerns and foster the development of the reflective practitioner. While his remedy goes beyond the modification of assessment practice to the transformation of the curriculum it could be argued that the assessment activities of existing programmes lock students into a limited conception of preparation for practice, and these must be addressed if any reform is to be undertaken.

The power of thinking about assessment in terms of the demands of accurate marking is such that there is a temptation to include those assessment tasks which can be easily marked at the expense of those which might mirror reflective practice. An example is in the keeping of log-books and journals. By their very nature, these documents are personal, idiosyncratic, and exist as a forum for criticising and modifying thinking. When they are actively used, these books are often untidy, difficult for the outsider to follow readily and indicate examples of thinking which may later be modified or rejected. Students do not generally like to submit work of this nature or in this form for assessment and therefore seek to

change it to give an artificial sense of purpose and theme, thus destroying its value as a learning and assessment tool (Howard 1991).

However, there are a number of concepts which underlie self-assessment and it is necessary to consider these before proceeding to examine self-assessment in detail.

4.1.1 Problem-based learning and assessment

Problem-based learning is an approach that is gaining considerable ground in courses which educate students for the professions. The basic concept that underlies problem-based learning is that:

> *'the starting point for learning should be a problem, a query or a puzzle that the learner wishes to solve. Organised forms of knowledge, academic disciplines, are only introduced when the demands of the problem require them'. (Boud 1985)*

The essence of problem-based approaches to learning is that the organising concept is a 'problem in context'. This form of learning has been applied most widely in medicine and the health professions, but has spread now to most professional fields in one form or another. This is the philosophy of problem-based learning, (and the special role of self- and peer-assessment within it): that the learning of technical and discipline knowledge should be focused on problems rather than on the structure of the disciplines which have conventionally thought to constitute the field of practice. (Pallie & Carr 1987; Ridderikhoff,1991; Boud

1985; Boud 1988). In occupational therapy practice, the solution to most problems occurs through the application and interrelationship of knowledge from many different areas of knowledge (for example Biological and Medical Sciences and Behavioural Studies) and which have in the past often been considered separately. When the integration of knowledge is being assessed, new forms of assessment are required which evaluate synthesis rather than items of knowledge.

Newble and Clarke (1986) conducted research on learning in a student-centred learning context based on problem-solving in medical courses. They used an inventory to compare traditional and innovatory courses in terms of their impact on approaches to learning. They established that the innovative problem based course was perceived to be higher in meaning orientation than the traditional course. Coles (1985) undertook a similar analysis in a European study and found matching results. These results suggest that at least some autonomous learning approaches are effective in promoting learning for understanding rather than learning for reproduction. Opportunities for students to exercise discretion over what and how they learn should not be confused with ambiguity and uncertainty about what are the requirements of learning tasks or assessments. Percy and Ramsden (1980) in their evaluation of two schools at North East London Polytechnic and the University of Lancaster in which students learned through independent study, found that lack of clarity was not helpful in promoting autonomy.

Student-centred learning can be criticised for a potential lack of emphasis on theories and concepts that require an appreciation of disciplinary knowledge. This is a danger that can only be avoided by a careful analysis of what knowledge the solution of problems essentially requires. There are always hard decisions to be made about what is to be included or excluded in a curriculum. Student-centred learning highlights these, as, without the familiarity of the framework of the discipline, it is necessary to think through each decision with regard to content and process to ensure that less obvious essential components are not unintentionally excluded (Pallie & Carr 1987).

According to Gibbs (1995) student-centred courses require that alternative methods of assessment to the traditional assessment practice be used. He highlights that within student-centred learning the key decisions about learning are made by the students or by the students through negotiation with staff rather than solely by the teacher. Decisions to be made include:

what is to be learned *(goals)*

how and when it is to be learned *(methods and schedule)*

with what outcome *(assessment product or evidence)*

what criteria and standards are used to assess the outcome

what judgements are made *(marks or grades)*

by whom these judgements are made *(self-assessed or staff-assessed)*

(Gibbs 1995).

There is evidence that a wide range of different courses employ a diversity of student centred methods of assessment. These include a variety of self-assessment and self-reflection processes. Authors such Brown, Rust and Gibbs (1994) and Gibbs (1995) are endeavouring to spread good practice and to encourage the development of different assessment methods. They report examples of *group work assessment using case studies* in such diverse courses as Design and Mathematics; examples of the use of *diaries, logs and journals in courses* such as Engineering and Women's Studies; the use of *learning contracts and negotiated assignments* in Publishing and Engineering courses and the use of *self- and peer-assessment* in Science, Education and Counselling Courses. The assessment of *skills and competence* is also highlighted in Law and Business Courses again using case studies. These examples report that students appreciated these different methods of assessment as being more appropriate to their learning and whilst the majority of staff and students found it initially difficult they were very positive towards the experience. All writers stress the need for clear criteria and guidelines for all such forms of innovative assessment methods (Brown, Rust & Gibbs 1994; Gibbs 1995).

Many of these innovative forms of assessment include either peer- or self-assessment, with an emphasis on the students reflecting on both the process and the learning. These new forms of assessments address a wide range of skills and attributes and not just the traditional written form of assessments.

4.1.2 Peer assessment

There are different views with regard to where and how self- and peer-assessment fit together. Brown and Knight (1994) believe that the more sophisticated skill is that of assessing oneself accurately, validly and reliably. They propose that students should initially undertake peer assessment of other students using criteria provided by staff. Having worked through inter-peer and intra-peer assessment students will have developed the skills necessary to evaluate better their own performances. So peer- and self-assessment reinforce each other.

In addition there is a considerable difference between self- and peer-assessment and self- and peer-grading. While the former incorporates feedback in the final product, the latter relies on students marking their own and each other's work against a set of criteria and model answers provided by the staff (Brown 1995). It is largely unskilled in its performance and often has little to commend it other than it saves staff time. There is also enormous potential for cheating and collusion between students with groups of students agreeing allocation of marks prior to the assessment.

Courses under the direction of Professional Bodies such as Occupational Therapy are starting to adopt competency-based rationales in order to assure professional standards. Medicine as already stated has adopted more flexible course processes such as problem-based learning, not in order to negotiate objectives but as an effective way of achieving specified goals. Student-centred course have been used

as a 'solution' to large-class problems. If students can be more independent, it is argued that maybe they won't need so much of their teacher's time (Gibb 1995).

Conventional assessment involves exam regulations, deadlines, penalties for lateness, rules about copying other students' work and plagiarism, appeals procedures etc. These regulations have been built up to safe-guard both students and teachers. New methods may be introduced without any such safeguards (Gibbs 1995), but such safeguards are probably more necessary with student-centred methods due to the open-ended and flexible methods of learning and assessment. This will guard against students giving themselves exaggerated high marks when using self-assessment, or negotiating objectives which are too easy to achieve or through not having clear guidelines or time-limits within which to achieve the objectives (Gibbs 1995).

However there are many problems posed in evaluating the efficacy of self-assessment since many examples are based on evaluating specific elements of courses. Many of the investigations carried out with regard to self-assessment are practice-based research, with 'teacher' as researcher evaluating their own course and institution. These studies were carried out in order to evaluate the use of self-assessment in specific areas prior to a wider use of the practice (Gibbs 1995). The examples of student-centred learning include a high proportion of peer and self-assessment.

Assessment by peer, staff, expert practitioners and others is essential in assisting learners to form sound judgements. There is, however, increasing evidence that students are able to make judgements about their own learning, and that by encouraging them to do so assists them to take responsibility for their own learning and helps develop those skills which they need to continue to pursue their learning outside the institution (Boud 1986, Boud & Falchikov 1989). The very assumption that learners are unable to make judgements, undermines their capacity to do so (Boud 1988; Rowntree 1987). Although there is little research regarding self-assessment in professional and academic disciplines (Boud 1986), interestingly, self-assessment appears to be used more frequently than it is published, particularly in occupational therapy as was evident at the 11th World Congress of Occupational Therapy in London when several speakers outlined their research studies and practices (Bapiste; Beecroft; Hay; Jacobs; Salvatori; Westmorland; 1994). This innovative work is however may not be subjected to peer review.

4.1.3 Self-assessment theoretical background

Many psychologists have studied the use made by individuals of achievement tasks as a means of assessing abilities (Troupe & Brickman, 1975; Troupe 1975; Meyer Folkes & Weiner 1976). A critical assumption underlying many of these social psychological theories is that individuals are motivated to evaluate the environment and to accurately appraise their ability to carry out effectively, appropriate adjustment within that environment (Festinger 1954; White 1959 Keely 1967).

Festinger's (1954) work on social comparison theory has served as a basis for several self-assessment behaviour studies. The underlying premise of the theory is that individuals are motivated to evaluate the environment and to appraise accurately their ability to carry out effective transactions in this environment. Although Festinger's theory emphasises the need for accurate self-evaluations, other social comparison theorists have proposed that people compare themselves to similar others in order to satisfy their need to evaluate their abilities and opinions.

Some researchers have supported the notion that self-assessment is diagnostic - that is, information seeking, regardless of self-esteem implications (Troup 1982; Strube 1986). Troup proposed a self-assessment model based on the assumption that in the absence of extrinsic incentives, tasks were selected according to the extent to which they promised to reduce uncertainty about one's ability level. The amount of uncertainty reduced by an outcome of performance at the task is equal to the difference between the uncertainty before the outcome is observed and the uncertainty after it is observed. This difference is, in turn, a function of the diagnosis of the outcome. Others have contended that self-assessment is modified in the interest of protection of self-esteem (Brickman 1977; Snyder 1981). Meyer and Starke (1982) found that young adults with high self-concept of intellectual ability chose to seek concrete, objective, factual and irrefutable information about their own ability, for example I Q scores, while those with low self-concept of ability chose a self-enhancement, social comparison assessment strategy i.e.

subjective opinion about advertisements which gave no information about their ability.

Although this assumption appears to be rather widely accepted in general, there has been considerable debate concerning the specific manner in which individuals engage in self-evaluation. One popular view is that individuals seek information that is largely diagnostic of their abilities, regardless of self-esteem implications (Troupe 1980). An alternative viewpoint is that self-evaluation is often modified by concerns for self-esteem protection (Snyder, Stephan & Rosenfield 1976; Brickman & Bulman 1977).

According to the self-assessment viewpoint, task selection depends on the degree to which the performance can reduce uncertainty about one's ability level, (Troup and Brickman 1975; Troup 1980), not on the degree to which task outcome had positive or negative implications for self-esteem. Tasks that can reduce uncertainty about abilities are preferred because accurate self-appraisal of both strengths and weaknesses helps in coping with the environment effectively. A task is highly "diagnostic" to the extent that it can enable the individual to clearly distinguish between the individuals possessing high or low ability. Researchers have documented the preference for highly diagnostic tasks (Troup 1975, Troup & Brickman, 1975; Zuckermann 1979, Troup 1980), and have further indicated that this preference occurs regardless of task difficulty level and in accordance with the likelihood of reducing uncertainty about an ability.

More recently it has been demonstrated that task performance is affected by the uncertainty-reducing properties of tasks (Troup 1982, Troupe & Ben-Yair 1982). It is, therefore, clear that individuals concerned about accurate appraisal of their abilities often choose to perform tasks in ways intended to maximize information gain.

Research also indicates that individuals are concerned about the self-esteem implications of performance in self-evaluative settings. One common example of the self-serving bias is talent (Snyder 1976; Bradley 1978), the tendency for individuals to evaluate themselves favourably by taking credit for positive outcomes and denying blame for negative outcomes. More important is that individuals often behave in ways designed to bias the diagnostic implications of their future performance. These "self-handicapping" strategies (so called because they can serve as obstacles to success) are attempts to enhance the explanation of successful outcomes, but to render unclear the reason for unsuccessful outcomes. This research would indicate that people often tolerate and even seek unclear information about themselves, provided that it maintains or reaffirms a positive self-image (Snyder 1976).

According to both the self-assessment and self-enhancement viewpoints, individuals have a keen awareness of the analytical implications of task performance. The views differ, however, in their predictions concerning the

influence of task analysis on task choice. The self-assessment view suggests that a task will be viewed as attractive in the extent to which it is highly evaluative of abilities. The value of outcomes whether successful or unsuccessful, and thus the nature of the ability revealed, whether high or low, is of no consequence.

Outcome value is important, however, according to the self-enhancement view. A highly successful outcome has positive implications for self-esteem, whereas a highly inadequate outcome has negative implications for self-esteem. Consequently, the hypothesis of the self-enhancement view is that a task will be viewed as attractive to the degree to which it is diagnostic of that high ability but not low ability.

In contrast to Festinger (1954), Atkinson and Birch (1980) argued that the ultimate goal of behaviour is to maximise or minimise the effects of pride and shame rather that to attain self-knowledge. Miller's (1977) work identified factors such as attraction to the group, importance of the group as a reference group, and a concern-for-people orientation as influences that lead adults to prefer social rather than objective standards. Moreover, in the absence of objective standards, people satisfy their need to evaluate by comparing themselves with others. Trope (1979) suggested that individuals might choose not to be diagnostic in their self-assessment in situations in which performance is expected to be public and self-enhancement may serve a greater purpose.

There would appear to be a degree of scepticism concerning the individual's motivation for self-assessment. At issue are not only the likelihood of an unrealistic perception of one's own performance but also a tendency to self-assess in a way that preserves one's self-esteem - perhaps in part due to the competitive nature of the courses. Prior to implementing a self-assessment protocol in education, there is a need to identify the motivation behind the assessment strategies selected by students.

4.1.4 Self-evaluation and professional development

A further issue concerns the link between self-evaluation and the promotion of professional behaviours. Fuhrmann and Weissburg (1978) suggested that health professionals who engage in self-evaluation are more likely than their peers to become self-directed, self-motivated and analytical. Each one of these characteristics is consistent with the framework of an educational programme where the goal is the promotion of a responsible, self-reliant professional health worker. However, the direct association between self-evaluation and professional behaviour has yet to be validated.

How then do students learn to evaluate themselves? Expectation for self-evaluation among instructors and the educational merit of self-assessment make this a significant question. Despite the seeming importance of self-evaluation, only a few medical educators have formally introduced self-evaluation into the undergraduate level training and have published analyses of their experiences.

A recurring question is whether self- and peer-assessment skill can be taught. Bloom noted that, for the most part, evaluations made by individuals are quick decisions not preceded by careful considerations of the various aspects of the objects, ideas or activity being judged. These are more properly termed *opinions* rather than *judgements*. Thus, opinions are made at less than a fully conscious level with the individual not being fully aware of the clues or bases on which the judgement/appraisal is formed. The definition of a professional embodies conformation to established knowledge, as well as meeting technical and ethical standards. Conformation and commitment to such standards requires the ability to evaluate objectively and consistently one's own professional performance. The results of this study suggest that perhaps there is indeed a process in which medical students become more expert in their abilities to evaluate both their peers and themselves. The merits in using self- and peer-assessment in medical school are predominantly educational in nature (Bleys, Gerritsma and Netjis 1986). One of the strengths of this evaluation methodology is that it can be used to obtain measures of curricular effect by providing insight into what students perceive they are learning, thereby revealing specific areas or skills needing additional emphasis in the curriculum. In addition, as noted by Arnold (1985) self- and peer-evaluation methods have merit as measures of the noncognitive abilities associated with clinical performance and as stimuli to further learning and professional behaviour. Both these outcomes are important features in the socialisation and educational processes associated with becoming a doctor. The normal practice in

medical education has long been one of teaching the standards from a cognitive perspective without assessing the internalisation of the standards into the individual's professional perspective. Clearly medical students should be provided with opportunities to develop distinct criteria on which to base their judgements, so that their evaluations will be conscious and based on an adequate understanding and analysis of the different dimensions being appraised. Exposure to both self- and peer-evaluation methods may enhance professional development and therefore needs to be incorporated at the earliest stages of medical education, as well as throughout the clinical training and postgraduate years.

Self-assessment is fundamental to all aspects of learning (Burnard 1985). Learning is an active undertaking and thus it is only the learner who can learn and implement decisions about his or her own learning; all forms of assessment are therefore secondary to it. This does not imply that learners assess themselves independently of others, only that when other forms of assessment are used they must take account of the primacy of learners' decisions about learning and not be structured so that the learners' capacity as a self-determining being is called into question (Richardson 1988).

Self-assessment is seen as part of professional growth; it is a skill that has to be practised during education. In clinical evaluation the independence of students often presents the highest desired level of performance (Bondy 1983; Pavlish 1987; Malek 1988) and this independence includes self-assessment skills. Self-

assessment is sometimes seen only as a part of the process of assessment (formative assessment), and not intended to be used to make final decisions in the summative assessment period. For example Abbott *et al* (1988) studied self assessment and its relationship to clinical evaluation. They asked instructors (n = 9) and nurses (n = 145) about self-assessment; both groups described self-assessment as an important source of information in clinical assessment. They recommended self-assessment as a part of formative assessment; the independence in self-assessment is to be recognised as a long-term goal for students.

The direct association between self-assessment and professional behaviour has not been validated in occupational therapy literature. There are, however some relevant studies. Self-assessment has been investigated also in relation to critical thinking. Kintgen Andrews (1991) conducted a literature review on the impact of nursing education upon critical thinking. She found very mixed results, indicating both positive impact (Pardue 1987) and no impact at all (Sullivan 1987). Her conclusion was that the impact of nurse education upon critical thinking was lacking. This problem has also been identified with graduate nurses. For example Powell (1989) analysed nurses (n = 8) reflection-in-action in their everyday work and found higher levels of reflection rare.

Occupational therapy is an interactional human activity. Working as an occupational therapist necessities collaboration with other human beings, which is why the analysis of human relationships is important during education. The

student-teacher relationships may be categorised as teacher-dominated, student-dominated and collaborative. Self-assessment has benefits for the student-dominated and collaborative relationships. Griffith and Bakanaukas (1983) in their study about student-instructor relationships see the supportive, helping relationships as an ideal; they emphasised the students' personal relationship in learning and also self-assessment. Also Vaughan (1990) established in his study comparing nursing students' attitudes towards teaching methodologies, that students were more positively predisposed towards student-centred than teacher-centred teaching.

Based on the literature, self-assessment is connected with self-reflection and student-centred learning. The shift to self-direction and self-assessment starts to make process more important and less content orientated. Procedural competence is more basic than product competence, since the former is a precondition of providing many good products, while the latter is one-off. Each good product is strictly a confirmation only to itself.

4.1.5 Research into self-assessment

Early empirical studies of alternative methods of assessment were more commonly carried out in the United States and Australia rather than in Britain and have tended to emphasise self-assessment. Filene (1969) at the University of South Carolina described a self grading system which was introduced into two history courses. Filene made his own list of criteria of excellence for an examination essay

(focusing on the issue, adequate evidence, coherence, inclusiveness and originality) and this was then available to students participating in the study. He also proposed a general, twofold standard of self-assessment: students were to grade themselves: both by what they put into the course in terms of effort and interest and by what they obtained from the course relative to what was available.

During the semester Filene (1969) secretly kept a record of grades he would have awarded thus enabling a comparison between self- and tutor-grading to be made. Agreement was found in approximately 57% of cases, while 3% of students graded themselves lower than the tutor, and 40% evaluated themselves one or two grades higher. Student-tutor agreement was better with senior students than with juniors.

Subsequent studies have investigated situations and employed methodologies that are as varied as the results which emerged from them. In one such study Mueller (1970) requested that students make a casual last minute self-grading of their final examination performance which was then compared with the traditionally marked examination. In this instance there was 33% tutor-student agreement and 54% undermarking by students. Others have reported attempts at self-assessment or oral presentation, or general seminar performance and of overall course performance. (Kaimann 1974, Stanton 1978; Boud and Tyree 1979; Boud 1986).

The results from these non-systematic investigations vary widely. It has already been noted that Mueller (1970) found a tendency for students to *under* rate

themselves as compared with the tutor. McGreever (1978) on the other hand, found *'grade inflation'* in about 50% of his sample. The highest rate of agreement between students and tutors, 80%, was obtained in Stanton's 1978 study with graduate teachers. This, at first, might be seen to support the superiority of self-grading of older students suggested by Filene and others. However, results of other students call this simple explanation into question. Mueller's 'adult students', for example achieved only a 33% agreement rate with their tutors, whilst Larson's (1978) younger undergraduates were found to agree with their tutor assessments 70% of the time. At least two factors other than age must be considered. First Larson's students were provided with a "well-documented solution" and some guidance on grading their weekly examination. Thus the level of learning and type of assessment being made constitute important variables. It is clearly less of a problem to mark arithmetical problems with single answers, or multiple-choice questions, than it is to assess an essay requiring higher levels of learning, such as Bloom's levels of analysis, synthesis and evaluation. Secondly, in Stanton's study (1978) explicit criteria were established in consultation with students. It is possible that it is this procedure, rather than the age of the participants, which accounts for the very high rate of tutor-student agreement in this study.

These early studies raise two important questions that are still pertinent at the present time within higher education. First of all, what are 'accurate' measurements of student performance and achievement? A number of writers argue that failures in agreement between students' assessments and that of tutors

may point to 'inaccuracies' in assessment on the part of the tutor rather than on the part of the student. Obvious lack of correspondence between marks awarded to the same piece of work by two different tutors highlights this issue.

Second, the first studies raise the question of criteria of excellence relating to each area of assessment. While Filene (1969) offered a tutor's list of criteria for guidance, Stover (1976) encouraged his students to devise and elaborate criteria used for assessment, but reported that 'the criteria that self-graders said they used to evaluate themselves were not elaborate' Stanton (1978) however, established criteria for self-assessment in consultation with students. It is interesting to note that, whilst Filene obtained 57% agreement, Stanton, with the collaborative list, obtained 80% agreement.

Kaimann (1974) noted a behavioural difference between 'weaker' and 'stronger' students; the 'weaker' group displaying a tendency to rank themselves lower than the instructor, and the 'stronger' group displaying the reverse tendency to rank themselves high.

4.1.6 Self-assessment in the medical professions

Whilst there is little literature regarding occupational therapy and student self-assessment within education, there is some evidence that self-assessment has been used *per se* and research has been conducted in medical education generally. The educational merit of self-assessment had been recognised for several years in the

health literature. Innovative programmes in undergraduate medical education, such as problem-based learning curricula, frequently employ self-assessment. Yet, research efforts on self-assessment have not been extensive.

The literature with regard to self-evaluation shows some contradiction in reliability of results as well as some question about the assumptions regarding its role in professional growth. Early research (Linn 1975; Morton & MacBeth 1977) reported a strong association between student and instructor rating of performance ($r = .81$ to $.91$); however, studies with medical students show a significant lower correlation ($r = .3$). This variation may be explained by the fact that the early studies were conducted over a period of time while the later studies were not longitudinal in nature. In fact, some researchers suggest that it takes time for student evaluations to overlap with expert expectations (Cochran & Spears 1980; Cowan 1988). There are however insufficient studies of improvement over time in general to draw firm conclusions and there is generally a lack of studies on the influence of practice on self-assessment.

Another problem associated with self-evaluation is that students tend to be very self-critical and rate themselves lower than their assessors. Studies have found that students rate themselves lower than do their peers or instructors, and that students with psychological problems tend to rate themselves very low. Phillips (1979) stated that weaker students within a group do not see themselves realistically with the tendency to over estimate their performance.

4.2 Self-rating

As previously discussed *self-assessment* refers to the participation of learners in making judgements about their own learning (Boud & Falchikov 1989). Many think of self-assessment merely as the activity of *self-rating*, in which learners are asked to rate themselves according to some pre-established scale. This form of self-assessment, however, lacks the participation of the assessing individual in the selection of assessment criteria. Therefore, a more encompassing definition of self-assessment includes the identification of the choices an individual makes in trying to obtain information about his or her skills and abilities.

Much of the literature on self-assessment has focused on comparing learner self-rating with supervisor/teacher rating of the learner. In 1982, Mabe and West conducted a review and meta-analysis of the 'Validity of Self-Evaluation of Ability'. Their study reviewed a variety of professional courses including medical, engineering, nursing and management. Mabe and Stephen (1982) identified three criteria for the studies selected for review: the student reported self-evaluation data for a specific ability, the study reported comparisons of self-evaluation and other ability/performance measures and the study was a published report. Among subject variables identified within the studies were high intelligence, high achievement status and internal locus of control were associated with more accurate evaluations. Much of the variability in the validity coefficients (r = .64) could be accounted for by the range of measurements used notability "a) the

rater's expectation that the self-evaluation would be compared with criterion measures, b) the rater's previous experience with self-evaluation, c) instructions guaranteeing anonymity of the self-evaluation, and d) self-evaluation instructions emphazing comparisons with others" (Mabe & Stephen 1982).

In 1989, Boud and Falchikov conducted a quantitative analysis of student self-assessment in higher education. Their study also contain studies within a diversity of professional courses including medicine, engineering, law, dentistry, music therapy, teaching and politics and went some way towards providing answers regarding students' self-assessment. In looking at the results of a large number of studies (55) they found there was no consistent tendency to over- or underestimate performance. As with Mabe and Stephen (1982), Boud and Falchikov (1989) also identified that the circumstances of the assessment had a strong influence upon the students' self-assessment. They did however find a stronger correspondence between self-ratings and teacher ratings in advanced courses and science courses (which included many medical courses) than in other types of courses. The four medical courses included in the review identified that medical students were all in the underrating group. This study also emphasised that the more able students were more accurate in self-assessment than their less able contemporaries. Self- and supervisor evaluations were compared in primarily two ways: comparison between mean self-and mean supervisor evaluation and correlation of self-and supervisors evaluations. Boud and Falchikov (1989) concluded their study by stressing the need for further research into the *improvement in ability over time or*

with practice and that of the 48 studies reviewed, surprisingly, only six address the question of gender differences.

The work in the field of medicine has tended not to focus on any differences between men and women. With the increasing number of women in all areas of medicine and the large number of women generally within other professions allied to medicine it becomes important to determine if results apply to both men and women. Self-assessment for female students may well be different from self-assessment for male students (Filene 1969; O'Neil 1985; Jackson 1989). Waxman (1988) suggested that lack of mentors has a negative effect on the career development of female medical students. With this lack of direct faculty involvement, self-assessment may be a more necessary activity for female students.

Generally, studies have found that mean self-evaluations are lower than mean supervisor evaluations and that correlations between evaluations, though sometimes statistically significant, are small in magnitude. (Stuart 1980; Cochran and Spears 1980; Arnold 1981).

The lower self-evaluations imply that performance is underrated or represents a more self-critical view of performance than that of supervisors. Even though self-evaluations might be more critical of performance in an absolute sense (lower mean ratings), a high correlation between ratings would indicate that self- and supervisors ratings generally agree on the relative ordering of the individuals rated.

A possible explanation for these low correlations is a lack of reliability in ratings. However, reliabilities of supervisors' ratings are generally regarded as adequate (Levine 1986), and although few self-evaluation studies have addressed the issue of reliability, those that did found indices of reliability comparable to those for supervisors evaluations. It could be argued that the lack of congruence between self- and supervisor evaluations results from a lack of accuracy in ratings.

Much of the undergraduate medical education literature has indicated that student self-ratings correlated with faculty ratings, concurrent grades and peer ratings. Medical students may emphasise noncognitive abilities in their self-ratings, whereas faculties tend to make ratings more reflective of cognitive skills (Morton 1977; Arnold 1985). High achieving medical students held themselves to more stringent standards than did the faculty in some research (Arnold 1985) but not that by Peters (1989). Several researchers have found generally low correlations between self-ratings and supervisor ratings at the residency level (Stuart 1980; Kolm 1987). Klessig's research of 1989 in the area of resident humanistic attributes reported inverse correlations between resident self-ratings and faculty ratings. Whereas residents tended to differentiate levels of performance in each area, supervisors rated residents globally.

The published literature regarding medical students, however, provides little insight into the development of medical student self- and peer-evaluation abilities as students progress through their years of training.

The research that has been conducted on self- and peer-assessment indicates that self-ratings:

i) can be internally consistent, reliable, valid and good predictors of future performance;

ii) tend to be based on global perceptions rather than criterion-based dimensions;

iii) reveal information not provided by other traditional medical-school evaluation measures;

and,

iv) are valued by medical students for the incremental review and feedback provided by the self-assessment process.

Only three published studies could be identified addressing the development of student self- and peer-evaluative abilities over time. Bleys, Gerritsma, and Netjis (1986) investigated the importance of self-evaluation techniques in a pre-clerkship clinical skills' course in relation to the socialisation and maturation processes of becoming a physician. Scalabassie and Woelfel (1984) found that the self-assessment of students on a three-week anaesthesiology clerkship seldom agreed with those of their instructors. Repeated observations revealed that students failed to improve in their ability to evaluate themselves accurately in relation to the objectives established by the clinical instructors. Arnold (1985) examined the self-ratings of 211 undergraduate medical students over four years to determine

trends in and correlates with self-assessments. Although the students' self-evaluations and faculty ratings of these students' performances improved year by year, the relationships between the student's and the faculty's ratings decreased over time.

In a research investigation of dietetics students, Cochran and Spears (1980) found remarkable agreement between students' and faculty evaluations in this concurrent validity study. The research methods consisted of an examination and comparison of a summary critical incident instrument from instructors and students at each of three evaluation periods during each of three semesters. The degree of agreement between the instructor's judgement and that of the student in assessing the student's performance in the various behavioural categories was compared using the computer program developed by Spear (1978). Replication of the study with the same students revealed increased agreement in these assessments with the greatest gains in the categories that were viewed by the investigators as being closely related to the student as a practitioner.

4.3 Self-assessment in the work-place

The review of literature concerning self-assessment within academic courses revealed more research than was initially apparent, though much of it is theoretical and methodologically weak. However the literature regarding self-assessment

within the workplace is limited, both in number and in approaches used, with very few published accounts relating to undergraduates' transferable skills. Most of the relevant research to date concentrates on self-appraisal in relation to career development and training. However, given the significance of self-rated competencies to this area, the literature on competencies, self-rating and career development needs to be examined.

4.3.1 Self-appraisal

Much of the research on self-ratings relates to the process of performance appraisal. The use of supervisor ratings for appraisal, placement and promotion within the workplace continues to be extensive. By contrast the full potential of self-assessment has yet to be realised. This is reflected in the literature. The Mabe and West's (1982) review identified several moderating variables regarding self-assessment. There were largely personal (intelligence, achievement and locus of control) and situational constructs. The latter variables included whether the self-raters knew their rating would be compared with performance, whether there was previous experience of rating; whether there was anonymity and whether the instructions given to raters highlight emphasis comparison with others' criteria especially regarding performance (Mabe & West 1982).

Annual appraisals are undertaken within the workplace for two main reasons either for (i) promotional / financial reward or for (ii) diagnostic purposes / identifying

training needs of the individual. Implied criticism may be seen in either systems as financial reward may be withheld or training required to improve performance.

4.3.2 Self-ratings in performance appraisal

Research regarding the self-rating process has been conducted in order to establish the reliability and validity of performance appraisal (Levine 1980). Aspects of self-ratings that may have implications within the workplace are leniency, bias and halo.

Leniency in self-ratings: Several studies have found that individuals are often lenient (provide higher mean ratings) in rating themselves as compared with ratings by supervisors (Thornton 1980; Mabe & West 1982). Meyer (1980) also found similar leniency across both blue- and white- collar groups of employees, with ratings even more inflated at higher job levels. Across a range of professional and managers, over 80 percent of the sample rated their job performance as 'one of the best - in the top 10 per cent' (Meyer 1980). When ratings are lenient, problems are likely to go undetected and inflated claims be made (Thornton 1980).

Leniency and halo effect: Thornton (1980) in his study of 'white' and 'blue' collar-workers compared self-ratings with other forms of rating. He found that self-ratings tended to show more leniency error, less variability and less discriminating validity, but had the advantage of being less susceptible to the halo effect. Meyer (1980) clearly demonstrated the leniency error by asking employees to compare themselves with others at the same grade in the organisation. In one

group of professionals and managers from predominately the private sector, over forty per cent placed themselves in the top 10%. This effect was attenuated when the self-appraisals were publicly announced. When the comparison is made between the self-raters own relative strengths and weaknesses, there is little leniency effect, and much less halo effect than typically obtained in other ratings. The halo effect occurs when a rater does not discriminate among aspects of behaviour and allows an overall impression to influence ratings of all dimensions (Vance *et al* 1983).

McEnery and McEnery (1987) conducted a study in respect of the self-ratings of the management training needs of 2500 hospital workers in America in which these were compared with the ratings of supervisory and management staff. Both self- and supervisory assessment of training needs was collected from 268 managers. Self-ratings tended to be more lenient and evidenced less halo than supervisors' rating of subordinates. Self- and supervisory need assessments of the subordinates were not significantly related. Self-ratings of training need assessment were associated with three independent factors (traditional management functions; human resource management functions; developmental functions); while supervisory need-assessment of subordinates focussed on only one general area (general management functions). The authors concluded that much of the difficulty with self-ratings is due to either the motive of the individuals to enhance themselves or the lack of ability of individuals to rate themselves objectively and reliably.

McEnery & McEnery (1987) also suggest that individuals undertake a more discriminating skills inventory than do supervisors. These findings, coupled with evidence that supervisors projected their own needs when identifying suborindates' needs, suggests that self-ratings of needs assessment may be an important part of a valid needs assessment process. As Bandura (1978) theorizes, self-rating may be preferable to supervisory ratings, especially in the context of training needs assessment. Sharing ratings may lead to both parties revising decision-making and help to increase consistency.

Bias in self-rating: Bias, which has been defined as a lack of correlation between self-ratings and the ratings of others, may be particularly relevant in an applied setting such as the work place (McEnery & McEnery 1987). Findings are inconsistent in this area. Thornton (1980) reports 11 studies that indicate a lack of agreement between the individual and the immediate supervisor. In seven studies some degree of convergence was found with other ratings sources such as peers. Such positive results are suggested by Thornton to be related to clear conceptualisation of the construct and the development of good rating scales.

Halo effect in self-rating: 'A halo effect occurs when a rater does not discriminate among aspects of behaviour and presumably allows an overall impression to influence ratings of all dimensions' (Vane et al (1983). Thornton (1980) reports that in 10 of 12 studies, self-ratings indicated less of a halo effect

than rating by supervisors or peers. There are significant differences in the context of performance appraisal and needs assessment within the workplace. If surveys of needs assessment are separated in time from performance measures used for decision making on reward allocation, bias may be less likely. Both individuals and supervisors may be more concerned with accurate measures of performance than is the case in performance appraisal when merit increases promotions and / or political protection for the supervisor may be at stake (McEnery & McEnery 1987). In addition, the self-enhancement motive may be lower since gain may not be as relevant as in the performance appraisal situation.

Self enhancement in self-rating: Mabe & West (1982), in reviewing studies that relate to self-enhancement, found that while in 15 studies individuals overestimated their ability, four studies found no tendency to overestimate and three studies found an underestimation of ability. Schlenher (1980) suggested that self-enhancement may be associated with a lack of information about performance, low rater self-esteem, or high likelihood of gain from a favourable self-report.

When criteria are relevant and rating scales simplified correlation between individuals and supervisors has been found to be high. Mabe & West (1982) reviewed 55 studies, which related *inter alia* to college students, psychiatric patients, auto assemblers, medical interns, managers, registered nurses, clerical workers, managers of manufacturing organisations, physicians, navy enlisted men and industrial executives. The performances rated included medical skills, clerical

and manual, industrial management and interview skills; and physical skill. They found that self-ratings were more highly correlated with performance measures when self evaluation instructions included social comparators words such as 'better than average' or 'as compared to your fellow worker', than when they were phrased in absolute terms. Heneman (1986) reviewed 33 studies relating to mangers and supervisors in industry and utilities companies and also found that the degree of the correlation between supervisors' ratings and performance ratings was significantly stronger when relative comparisons were used.

These two meta-analyses suggest therefore that comparative information plays an important role in affecting the accuracy of performance ratings. In a typical performance appraisal situation, supervisors have access to performance information about the entire work group, whereas subordinates rarely have complete information. Social comparison theory suggests that ratings conducted with little comparative information are likely to be less accurate that ratings based on a large volume of comparative information.

4.3.3 Self-assessment and work competence

There has been considerable controversy regarding definitions of competency and how it is assessed in the workplace. Ambiguity continues as to whether competencies are (i) general personality traits; (ii) general ability traits; (iii) transferable skills, knowledge and or behaviours; or (iv) organisation-specific skills. Woodrufee (1991) observed that there are two separate senses in which the

word 'competency' is used. In the job-related sense, it refers to areas of work at which a person is competent. He recommends the use of an alternative term: *areas of competence.* In a person-related sense, it refers to dimensions of behaviour that lie behind competent performance and for this he recommends the use of the term *competency.* Van de Werf (1980) argues that ... 'in modern production, a great part of worker competence appears to be company specific and only to be acquired on the job'.

There are also ambiguities concerning whether competency refers to the capacity to perform a specific task, actually performing it or achieving a specified outcome as a result of task performance (Training Commission 1988). For the purpose of this review self-rated competencies are defined as the extent to which people believe they have the requisite knowledge and skills to cope effectively with situations that they encounter in their work.

Self-ratings and supervisors' perceptions of employee work competencies are likely to have substantial effects on work performance, supervisor-subordinate relationships and perceptions of training needs. Yet little is known about how people early in their careers view their competencies, whether their supervisors shares their views, or whether ratings of competencies vary between organisations and/or with tenure. People's perceptions of their work-related competencies have great importance in work settings. They have implications for career planning and development (London & Stumpf 1982); analysis of training needs (McEnery &

McEnery 1987) and interpersonal skills in the work-place (Carroll & Schneirer 1982). Perhaps most important is how self-ratings of competencies are likely to influence work performance.

The literature on self-efficiency (Bandura 1986) indicates that the more a person believes they can successfully carry out the behaviour required to achieve a particular task the better they are likely to perform. It is also likely to influence task choice. It has been argued that people with higher levels of self-rated competencies choose more demanding tasks than those with lower self-ratings (Heilman *et al* 1991). This highlights the probability that high self-rated competencies can lead to vicious circles of high achievement and even more positive self-perceptions with the corresponding vicious circle for low initial feelings of competence.

4.3.4 Transferability of self-assessment skills

Positive transfer of training is defined as the degree to which trainees effectively apply knowledge, skills, and attitudes gained in a training context to the job situation (Training Commission 1988). Transfer of training, therefore, is more than a function of the original learning in a training course. For transfer to have occurred, learned behaviour must be generalised to the job context and maintained over a time period (Baldwin & Ford 1988).

There is evidence from the USA (Howard 1986) that undergraduates' grades do not predict post-graduation work performance. Surprisingly, there is little evidence that academic performance on courses correlates with or helps to predict performance on student work placements. Although there has been little research it is reasonable to assume however, that the skills developed and assessed in academic work should relate to those skills required in the professional career.

However reasons are apparent as to why academic and work assessments may not be related. Bias in assessments by both work-place supervisors and academic staff is likely to occur, for example lecturers may develop expectations of students' performance, which in themselves influence subsequent marks (Rosenthal and Jacobson 1968); these expectations may be unknown to work supervisors. At no time do academic staff and work place supervisors assess the same behaviour. Another possibility is that even if academia and work do require the same skills, they do not necessarily involve the same motivation of the part of the students. Yet performance is likely to be influenced by motivation as well as skill.

4.3.5 Socialisation in the workplace

A basic assumption of social comparison theory is that there are two standards against which abilities (or attitudes) may be evaluated: physical and social reality. Festinger (1954) indicated that individuals first desire to form accurate self-assessment of their abilities on the basis of physical reality i.e. comparing themselves against physical standards such as time taken to complete a task.

However, when such standards are unavailable, individuals evaluate their abilities by comparing themselves with other people. In the area of performance evaluation absolute standards against which performance can be judged are very rare. For example *outstanding performance* or *poor performance* are often used as anchors on normal graphic rating scales. Even when clear standards are available, they are only meaningful when they give information concerning one's relative standing in a work reference group (Mabe & West 1982).

An important implication of the social comparison viewpoint is that performance evaluation involves more of a relative comparison than an absolute one. Moreover, it may be easier for the rater to compare one ratee to other ratees than it is to compare a ratee against what may be poorly defined statements on a rating scale (Heneman 1986).

The literature on work socialisation (Van Maanen 1976; Feldman and Brett 1983) suggests that students, because of their relative unfamiliarity with the world of work, would be likely to rely substantially on more experienced personnel to 'make sense' (Louis 1980) of their work environment, including their own performance. Other research (Jones 1983) emphases the potential of newcomers to influence others to 'see things their way'. It seems likely therefore that even though agreement is likely to be limited, managers and students should agree more closely in their performance ratings at the end of a year than at mid-year. It could be

tentatively suggested that managers' ratings would have more influence on those of students than vice versa (Van Maanan 1976).

4.3.6 Relevance to occupational therapy graduates

Much of the literature regarding self-assessment within the workplace has been conducted within the private sector (Mabe & West 1982; McEnery & McEnery 1987); little research has been conducted within the public sector. Although the health service has adopted many management practices from the private business sector including staff appraisals and quality assurance, literature could not be found on self-assessment by qualified health service staff. No formal research could be found regarding the occupational therapy profession.

4.4 Overview of literature

The literature review has helped to highlight the issues regarding student's self-assessment. However, it raises as many questions as it provides answers. Notably that there is little reflective research on the subject and consensus is difficult to find. Certain trends do emerge, but the evidence is by no means clear-cut. The main areas raised relate to the flaws in methodology particularly with regard to a lack of standardised research tools and the reliance on the teacher's marks (expert) as the benchmark against which to gauge performance. The reliability and validity of the findings reported must be seriously questioned.

Many of the studies reviewed exposed a range of methodological weaknesses (Mueller 1970; Keefer 1971; Filene 1969; Davis & Rand 1980). In particular, it appeared that researchers were unaware of previous work. New work often failed to build on previous research and address issues identified.

One of the main assumptions in the literature is that the teachers' marks should be the independent variable against which students' self-assessments should be judged, that is to say, they are the 'gold standard'. A major difficulty arises, however, regarding the unreliability of teachers' marks. Many studies in the past fifty years have demonstrated discrepancies between markers and consistency in marking over time (Rowntree 1987). Even when individuals, their supervisors and their peers are rating performance using the same measurements, differences of perspective can give rise to differing interpretations as is evident from Kegel-Flom's study in 1975. Students rated effort and teachers the product.

Several studies have, formally or informally, tentatively explored the differences in assessments by comparing the self-assessments of groups of students; undergraduates and graduates (Keefer 1971; Cochran & Spears; 1980 Moreland *et al* 1981) but there is no conclusive evidence regarding transferability from group to individual.

The literature also argues that the ability of self-assessors is a notable variable, with the more able students making more accurate self-assessments than their less able

peers. When students are simply asked to rate themselves on a marking scale, relatively capable and mature students are quite able to do so in a way which is similar to the way in which they would be rated by teachers (Stanton 1978; Mueller 1970). It is not surprising however, that weaker and less mature students tend to over-rate themselves and the weaker they are, in terms of teacher ratings, the greater the degree of over-rating (Keefer 1971; Moreland et al 1981; Falchikov 1986).

In several studies student ratings were derived differently from teacher ratings - in some studies different scales were used and in others different criteria were employed or composite marks were compared with non-aggregated marks (Morton & MacBeth 1977). In addition the scales used were not specified, or staff used different criteria than students (Keefer 1971). Examples of self-rating studies include Mueller 1970; Morton & Macbeth 1977; and Calhoun, Ten Haken & Wooliscroft 1990, but even when students and staff were provided with criteria the marks generated by them did not necessarily correspond precisely. However there was a lack of sufficient and reliable detail given in most studies for these problems to be examined in any depth.

Many different criteria have been used: banding of grade, percentage marks, fail, pass or merit. Many of these have not been clearly defined. The study by Boud and Tyree (1979) suggests that results may reflect more on the types of scales used and the familiarity of students with them that on any substantive differences

between staff and student ratings. In addition staff and students may have different concepts and ideas about what is important in the assessment process. Keefer (1971) for example, asked students before they had undertaken any study to rate what they might expect to get at the end of a course. Few subsequent studies have considered it appropriate to consider such predictions.

Many studies simply reported mean score percentages and others correlation coefficients. Correlation coefficients were also used in many early studies in circumstances where direct comparison of data from staff and students would have been more revealing. While some studies have, for example, reported the findings in terms of numbers of those which correspond to a greater or lesser degree with those of the teacher group. This makes it difficult to have a complete and precise picture.

In many instances description is insufficient regarding the context of the study. In several there is little or no information on the circumstances in which students rated their performance. In many it is not clear whether or not the students-generated marks on performance were formally used for assessment purposes.

Within research there is a distinct lack of replication so that we do not know how far trends are sustained over several cohorts or over several years.

Some of the earlier studies included rating of student effort (Filene 1969; Davis and Rand 1980) but failed to make a clear distinction between performance and effort expended. Effort exerted by students cannot be objectively established and therefore it would be unrealistic to expect agreement between staff and students, or indeed between students and students.

Although there may be a number of possible reasons for the substantial amount of variance between studies, the three main reasons appear to be the lack of clear criteria; or rater and ratee using different criteria and the opportunity for rater and ratee to observe the performance. It is essential that the rater and ratee use the same criteria and same grading scale. However, this was not always the case within the studies. Other potential reasons for differences between raters and ratees include purpose of rating, amount of rater training and rater motivation. These variables however were rarely reported.

An encouraging issue emerging from the literature is the relatively strong association between valid self-evaluation and provision of self-evaluation experience. In the self-assessment studies reviewed, the provision of self-assessment experience was more incidental than systematic, and it may be that more careful structuring of these self-evaluation experiences may help increase valid self-knowledge.

Much of the work regarding student 'self-assessment' has been in exploring professional competence and the role of self-assessment in the development of the 'reflective practitioner' (Argyris & Schon 1994) together with literature relating to learning-how-to-learn (Flavell 1979; Baird & White 1982). There has been little directly connecting this work with students' self-assessment in higher education. The work of Heron (1988) and Rogers (1983) still stand as major contributions to common thinking on student self-assessment.

5 Conclusion

The literature highlights the growing interest in self-assessment over the years. There is however, a lack of high quality research based on sound theories and firm research methods. There would appear to be insufficient work to enable conclusions to be drawn with regard to improvement in skills over time, or with practice or concerning their transferability to the workplace. There has been little investigation of self-assessment in the context of health professionals, and specifically with regard to professional competence.

Despite educational gains from self-assessment of self-determining students and life-long learners, research shows there is: i) a frequent lack of agreement with regard to assessment between self-assessment results and that provided by other

sources and ii) there is no consistent tendency for students to over- or underestimate performance (Filene 1969; Stanton 1978; Mueller 1970; Arnold *et al* 1985; Boud *et al* 1986). Thornton (1982), in his summary of regarding self-ratings, concluded that 'individuals have a significantly different view of their own job performance than that by other people'.

There is an obvious lack of research within the education and practice of occupational therapy with regard to self-assessment, despite the firm arguments put forward from writers such as Boud and Cowan (1985) and Boud (1987) with regard to the use of self-assessment in other professional education. Such 'conventional' assessment still used within occupational therapy courses has the tendency to encourage an antagonistic relationship between teachers and students. Learning is more likely to be successful and enjoyable if students are self-directed, rather than undertaking a task imposed by someone else. Compulsion often encourages students to seek the easiest way to comply with the letter, rather then the spirit, of the imposed tasks. All these considerations suggest that self-assessment might offer a significant improvement over conventional assessment methods within occupational therapy courses with the added prospect of the 'carry over' into the work-place.

This study was undertaken therefore, to examine the ability of occupational therapy students to self-assess both within the educational setting and within the work-place. The investigation adopted a practice-based approach (Cohen and

Manion 1986), as the researcher considered that improvement in practice was a priority. This led to several different research tools being used in the investigation in order to gain as many different perspectives of the situation as possible; from students, from course documents, from academic and clinical staff. Reflecting that practice impacts on different participants and different aspects of course delivery. An important feature of the process was to examine the implementation of self-assessment. However, this process would not be completed when the research ended, it would be on-going, leading to the improvement of practice within the education institutions concerned and the wider education arena.

6 Methods

Overview of section

In this initial section the research methods of other studies will be considered and the case for the methods and tools used in this investigation forwarded. It is important to note that the researcher as a member of staff at one of the centres where the study was conducted would have been seen in several roles, such as researcher, staff member, personal tutor by the student group. It was recognised from the start that the role of the researcher could not be that of the detached observer, but rather would be one of active participant in the process. A practice-based research methodology (French 1993) was adopted in recognition of the huge potential of the study to inform practice and through the educational process effect practice changes. The researcher was interested in building practice-relevant knowledge in the field of self-assessment, thus expanding conventional university-based research to a more grounded practice process and a wider community audience. It was hoped that this investigation would demonstrate the commitment of the profession to a programme of development.

A practice-based research approach was selected as the researcher was seeking to focus on a specific problem within a specific setting. The emphasis would not be on obtaining general scientific knowledge but rather on obtaining precise knowledge for a particular situation and purpose. Practice-based research is concerned with innovation and change together with ways in which such change can be implemented within the organisation (Cohen & Manion 1989). Within

education practice-based research falls into several categories including problem-solving in specific situations; in-service training in developing staffs' analytical powers and a means of introducing new approaches.

Practice-based research adopts a monitoring approach to the situation, therefore several research tools may be used over a period of time, for example questionnaires, interviews, case studies and diaries (Cohen & Manion (1989). The principal justification for the use of practice-based research is the improvement of practice. Such change can be achieved if staff are able to change their attitudes and behaviour and one of the best means of bringing this to reality is from the group process where several staff are involved in the overall research process.

An examination of the research methods employed in other studies of student self-assessment revealed that the 'one-off questionnaire' and completion of 'time interval self-rating questionnaire' forms were, by a large margin, the most popular methods of acquiring information. Both these techniques were frequently used together within the same investigation and demonstrate a well-tried method of operationalising the concept of self-assessment and provides a clear cut method of validation. A small number of studies, particularly those focusing on clinical skills, employed interviews as a means of validating information derived from questionnaires. While this study used this approach it is supplemented by other methods thus allowing key individuals to be involved, including students, teaching staff and workplace supervisors. Students would be involved in completing the

self-rating forms, as well as with academic staff in completing questionnaires regarding self-assessment within the present courses. Students as new graduates and their first workplace supervisors would be the main participants in repertory grid interviews. Content analysis of course documents relating to self-assessment was also used.

The main research questions examined in this study were:

(1) to what extent is self-assessment integrated within occupational therapy courses?

(2) are occupational therapy students able to assess themselves accurately and precisely?

(3) is there progression in judging self-assessment skills during the three years of the course?

(4) is there transferability of these self assessment skills to the workplace?

The inquiry was concerned with the accuracy of the subjects self-assessment over the three years of the course, together with the underlying reasoning as to how the students determined their mark / assessment, together with the transferability of self assessment skills to the workplace.

Time-interval surveys and longitudinal studies are two research designs which most specifically focus on change processes, but they do so in different and complementary ways (Hakim 1987). It was therefore decided to conduct a *prospective longitudinal study* with time-phased data collections, over the research

period, as this would provide the opportunity to examine the relationships between the variables in the study and to explore changes occurring in those relationships as a function of time. As education is primarily concerned with the individual's physical, social, intellectual and emotional growth, developmental research by means of a longitudinal study was therefore the most appropriate design for this study.

Longitudinal studies involve data collection over extended periods of time. These are important but costly approaches. They have been used to study the long-term effects of health programmes, the sequel of various diagnoses or the natural course of human development and adaptation such as in the skill of self-assessment.

Panel or cohort studies involve examining a specific group or one particular grouping over a period of time, successive measures being taken at different points in time from the *same* respondents (DePoy & Gitlin 1993). The aim of the cohort method is to collect data from the same sample on more than one occasion. Problems of initial sample design are no different for cohorts than for single surveys, but there may be special problems of maintaining sample representativeness (DePoy & Gitlin 1993).

For the purpose of this study it was decided to collect data using four techniques:

i) content analysis of course documents;

ii) questionnaires;

iii) self-rating forms;

iv) repertory grid interviews

thus replicating some of the earlier studies but extending the research to follow the cohorts over a longer period of time and into their first place of work.

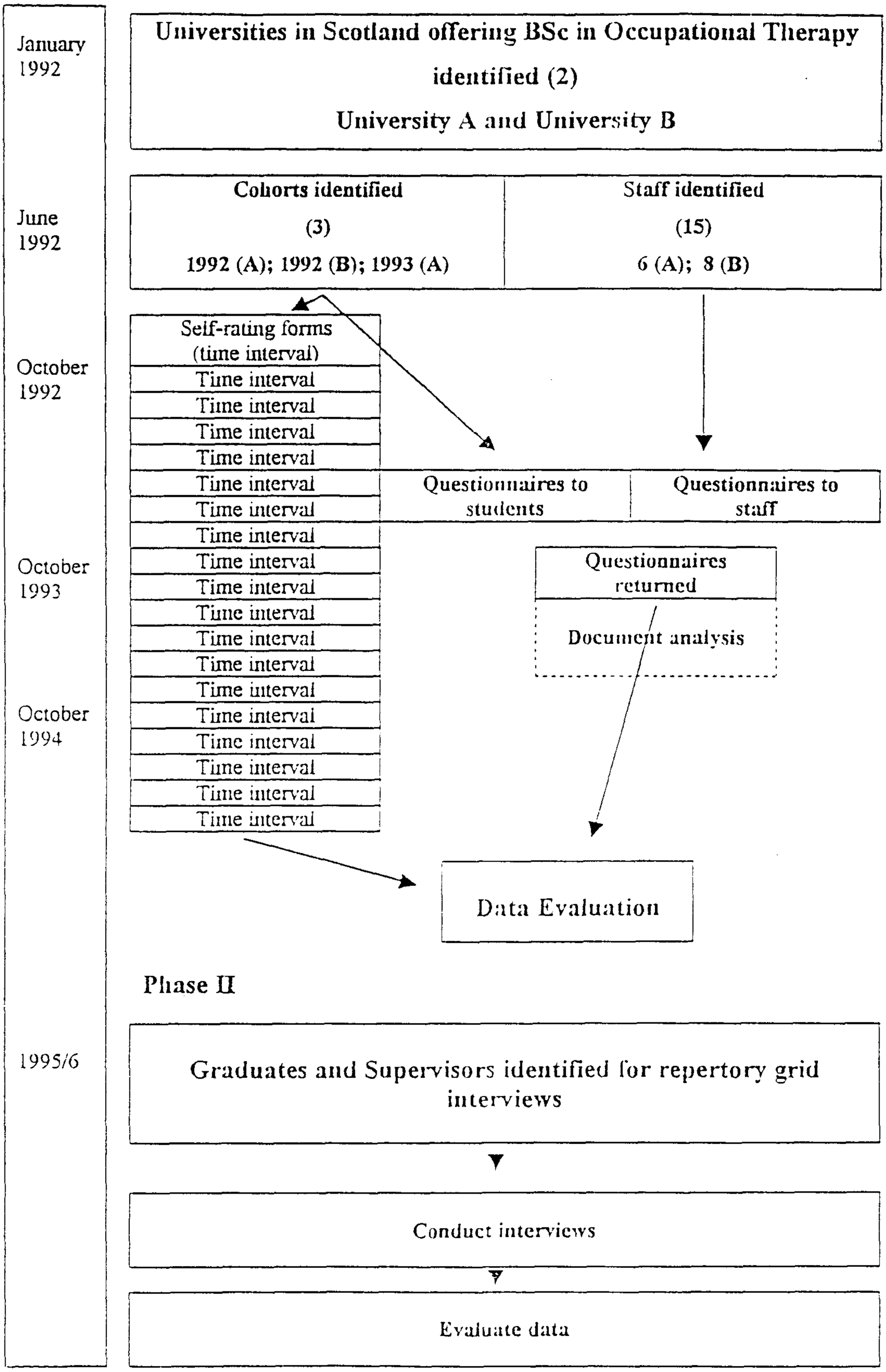
The main phases of the investigation were as follows:

Phase I: Contact made with the two university departments offering the BSc in Occupational Therapy early in 1992 to seek co-operation and obtain ethical approval as necessary. June 1992 two cohorts of students identified, cohort 1992 (university A) and cohort 1992 (university B). {Cohort 1993 (university A) was recruited in June 1993}. Self-rating forms were issued to students, related to the completion of academic assessments, over the three years of the course. January 1993 questionnaires were distributed to both 1992 cohorts and to academic staff; questionnaires were distributed to cohort 1993 in January 1994.

Phase II

Repertory grid interviews were conducted between November 1995 and March 1996.

Figure 1 **Plan of investigation (1992 cohorts)**



6.1 The setting

For the study, educational institutions within Scotland offering BSc in Occupational Therapy courses were used as sites for data collection. The proposal was to include all three institutions in Scotland offering degree courses in occupational therapy. However following consideration regarding the sample proposed and the fact that one of the three courses leading to qualification in occupational therapy was in a non-university setting at that time it was decided to use only the two university-based sites. The two departments selected therefore were both within the university educational system and also of a similar size with regard to student numbers. The additional constraints of time, the larger number of subjects involved and the possible difficulties obtaining completed forms were also considered in the decision to use only two departments in the study.

As parts of large universities, the two departments had similar organisational structures, comparable intake of students per year, corresponding course structure and academic assessments. The two departments had, within the last five years, transferred from being Health Board Educational Training Centres (Schools) into Higher Education, had moved from offering National courses to offering Diploma '81 courses and within the last three years to offering BSc in Occupational Therapy courses.

Preparing students for self-assessment

As an occupational therapy teacher on occupational therapy courses for several years the researcher had established that occupational therapy students already

engaged in self-assessment in various forms throughout the course. These included formative peer-assessment in first year to group summative self-assessment of 'presentations/ teaching' year with self-generated criteria, in the final. Self-assessment was also carried out within practical courses, such as splinting and 'Enterprise project'.

Within the Professional Skills course in first year, at one of the universities, students working in groups were formatively peer-assessing other groups of students. This was carried out with groups of students organising and conducting Leisure Activities sessions. Criteria for the peer assessment were 'given' to students by the staff member. In third year summative self-assessment was used in the assessment of 'Teaching of Special Topics'. Students worked in groups in preparing a peer teaching session. In the process they negotiated assessment criteria between the members of the group, and following the actual teaching session they allocated marks according to their own criteria. The criteria and final allocation of marks were open to scrutiny by staff. Self-assessment was also carried out within other professional courses such as 'Splinting' where students assessed the quality of a completed splint against criteria set by staff. The 'Enterprise Project' in third year gave students the opportunity to self-assess the process of working within a group and using given criteria allocate a 'group mark' to individual students depending on performance within the group task.

Self-assessment has been a regular part of students' clinical placements for several years. This process is based on the broad objectives set by the university with

students negotiating specific detailed objectives according to their learning needs at that particular point in the course. Following this students also negotiate the criteria for assessing the learning objectives. So that although all students work to the broad course objectives, students individually identify their own learning needs, and how these should be met and assessed. Formative assessment of the placement occurs at the half-way point, with objectives and criteria being discussed and confirmed or modified as appropriate. The summative assessment at the end of the placement involved the supervisor and student completing the assessment, coming together to discuss their individual assessments and negotiating the final assessment, the student and supervisor both producing evidence for their assessment.

Students would therefore have experience of different forms of assessment from the traditional assessment of staff setting and marking academic work to having to self-assess with 'given criteria', to 'negotiated criteria' to setting their 'own criteria' within 'Professional Skills Courses and clinical placements.

Academic assessment within the two universities in the investigation was an open process. The students were given the assessment 'topic', together with broad assessment criteria at the beginning of the term. This was followed several weeks later with a 'tutorial setting' where staff were available for questioning about the topic and the criteria.

In addition, several initiatives were being used within the two universities with regard to portfolios, profiling and the use of reflective diaries. As the researcher was based within university A, it was possible to ascertain that students were required to complete an Academic Development Profile (Caldwell 1994). Students are required to complete an Academic Development Profile (See Appendix VII) once a year. This involves the students considering various aspects of the course and their own performance within those areas, writing supporting statements to justify their achievements and then discussing these with their own personal tutor. In addition students are asked to set goals for the next section of the course and how these goals might be achieved. In this way students are made aware of the self-evaluation process, identifying the present situation, setting goals for the future and at the next meeting reviewing how near they were to achieving their goals. They are developing abilities in self-assessment and also in being also to discuss their self-assessment with relevant others.

6.2 Research Instruments

As already established, four research instruments were used for data collection. The research methods using questionnaires and content analysis are well known, and fully documented. Their strengths and weaknesses are well recognised. The main focus of this section therefore will be on analysis of course documents and on the repertory grid technique.

Analysis of course documents

Documents are a valuable source for establishing retrospective information and may offer the only method by which historical information is accessed and policy encapsulated (Walker 1987). Course documents are a good source for determining the purposes, rationale and history of a course. The information obtained from such documents is often more credible than information obtained via observation and interviewing. Documentary analysis is commonly referred to as content analysis which allows replicable and valid inferences to be drawn from data within their context. It differs from other techniques used in this investigation in that it is indirect rather than direct. Instead of directly observing or interviewing staff regarding the course, analysis of the documents allows for an objective and more likely detached 'observation' of the educational process (Robson 1993).

The advantages and disadvantages of document (content) analysis can be summarised as follows:

Advantages

a) It is an 'unobtrusive' measure. Observation is possible without visibility.
b) Data are in permanent form and hence can be subject to re analyses, allowing reliability checks and replication studies.
c) It may provide a 'low cost' form of longitudinal analysis when a series of documents are available

Disadvantages

a) The documents available may be limited or unavailable.

b) The documents have been written for some purpose other than research and it is difficult or impossible to allow for the bias or distortions that this introduces.

c) As with other non-experimental approaches, it is very difficult to assess causal relationships.

This material provided information with regard to the aims and objectives of the BSc in Occupational Therapy. It would enable assessment of the prominence of self- assessment(s) within the courses, together with details of the areas within which self- assessment was facilitated and/or used. Details of teaching styles and course appraisal systems would be also be stated. Demographic information on past student cohort would also be included in this study. Documents included course documents, annual reports, assessment schedules, students' files, students' handbooks and other relevant course material, for example assignment criteria and assignment feedback sheets.

<u>Questionnaires</u>

The second research instrument used was a questionnaire (Appendix I). A questionnaire was distributed to the student subjects; the same questionnaire with slightly modified questions was also distributed to the qualified occupational therapists on the staff of both universities. The questionnaire asked participants to

identify self-assessment methods within the courses and gauge the perceived importance of self-assessment skills to the student.

In order to gain general information regarding self-assessment skills and development as part of the overall BSc course, a form was designed.

Advantages of this method can be summarised as follows:

1. statistical analysis can be used to obtain an understanding of group responses;
2. the respondents might be more likely to respond honestly on paper knowing that their confidentiality will be upheld;
3. a large cohort of persons can participate in a relatively short period of time;
4. the responses from this group (or smaller groups within a larger group) can be compared with each other because the test has been repeated in the same way;
5. the researcher obtains responses to only those questions of interest with no additional information (Moser & Kalton 1992).

It is acknowledged that in selecting this particular method of data-retrieval, that some in-depth knowledge that might have extended the study beyond its current remit may have been lost (Moser & Kalton 1992). This was not without some thought by the researcher, who, faced with the choice between seeking the depths for the meanings attributed to each perception elicited from the subjects on the one

hand and exploring the potential of self-assessment skills, opted for the latter approach. This was in the hope of identifying further uses for the two instruments and of raising new issues that might form the basis for more substantial future studies and aid occupational therapy education generally. It is noted by many authors including Cohen and Manion (1985) that it is often very difficult to gain a good response rate from questionnaires and self-reporting forms and some authors, including Bell (1987) recommend personal contact to improve this. It was anticipated that in this practice-based research that the response would be good since the educational sector of the occupational therapy profession is very small and heads of department are noted for their support of, and co-operation with, each other, especially when research is involved.

Pre-coded questionnaires were analysed using an EPPC computer. A coding frame was developed to analyse data from open-ended questions.

Self-rating forms

It was important to obtain information on the students' self-assessment from all completed academic work, therefore a Self-Rating Form was designed for use throughout the research period. It was intended that it would enable data to be collected with minimal direct intervention from the researcher beyond that which was necessary for procedures initially to be clarified.

The self-completion rating form (Appendix II) asked students to predict their results (numerical) of recently completed academic assessments. In addition the subjects were asked to identify the reason leading to this decision from a list of eight factors pre-determined from a pilot study carried out (See Figure 2).

Figure 2 Reasons for self-assessment rating

a) amount of effort put into the assignment
b) comparison with previous assignment marks
c) other people expectations
d) comparison with last assignment
e) liking for the topic
f) school report marks
g) other

The self-rating forms were distributed in September 1992 to the subjects at University A by the researcher; and in University B by the course leader who had agreed to be a facilitator for this purpose. In September 1993 self-rating forms were initially distributed to cohort 1993 at University A. The forms were to be circulated within one week of the students having completed and submitted written academic work and **prior** to the subjects receiving the experts' (i.e. staff assessor) marks for this work. In University A, the forms were to be returned to a pre-arranged collection point and in University B the course leader distributed and collected forms at start of lectures.

The marks generated by the students on the self-rating forms were to be used solely for the purposes of the research investigation and not for either formative or summative purposes within either course. Confidentiality was guaranteed to all students. These self-assessed marks were then compared with the actual marks awarded to the piece of work by the staff marker. Marks awarded by staff were used as a basis for comparison with regard to students' accuracy in self-assessment. Therefore a high level of congruence between students' rating and staff rating would indicate the high degree of accuracy in self-assessment

Data from the self-reporting forms together with the staff marks were analysed using SPSS PC software. Statistics including Pearson's correlation coefficients were used to express the degree and direction of association between self-rating and experts. It is important to note that whilst correlation coefficients are important in showing how different variables are associated, they do not necessarily indicate causal relationship between the variables.

Repertory grid

The fourth main approach used was via interviews using the repertory grid technique with both the newly graduated students and their immediate supervisor within the workplace.

The principal aim of this part of the practice-based research was to investigate the self-evaluation skills of the newly qualified occupational therapists included in this study. The main objectives were as follows:

a) to investigate newly qualified occupational therapists' ability to evaluate their own performance in the clinical setting;

b) to assess the extent to which self- and expert- (work-place supervisors) evaluations were congruent;

c) to determine the relationship between self-evaluation and academic skills;

d) to determine the relationship between self-evaluation and clinical skills.

As the main focus of this element of the research was the subjects' perception of 'self' it was considered essential to identify a research tool which would provide both qualitative and quantitative data in this area. The Repertory Grid Technique appeared to offer the most suitable method of eliciting and examining such data as the procedure has been described as searching and considered free from bias, as none of the interview content is suggested by the interviewer but all the constructs are defined on the respondent's own terminology. It is this lack of interviewer bias, coupled with great flexibility, which results in the versatility of the technique and therefore highlighted its suitability for this study.

Background to repertory grid technique

Kelly developed a complete theory of personality, Personal Construct Theory, which he published in 1955, alongside a technique whereby mathematical relationships between constructs could be obtained (*repertory grid technique*). This included the technique of non-parametric factor analysis (Kelly 1955).

In setting out his theory of personal constructs Kelly (1955) viewed the individual as active and inquisitive in this environment, moving in directions controlled by the ways in which he predicted events. He saw individuals as operating within a framework comprising a hierarchical system of bipolar constructs established and adjusted in light of personal experience, and he devised the Repertory Grid as one method of eliciting constructs from individuals in such a way that the relationships between them could be determined.

Repertory grids were developed to allow human behaviour to be studied in terms of prediction, namely of the individual endeavouring to anticipate future events on the basis of past experience. Through the process of eliciting a person's constructs on a topic a mental map of anticipated future behaviour is produced together with the subject's perspective. Repertory grids provide a detailed and structured method of interviewing and record the results in such a way that changes may be measured which are particularly relevant within the clinical / treatment setting.

It is important to appreciate the theoretical underpinning of Kelly's theory, and his methodological standpoint:

> *'if the experimenter sees himself exploring only one of many alternative constructions of man ... he will be on a continual lookout for fresh perspectives emerging out of his research experience. What values he places on his hypothesis will lie in the fertility of the experience in which they engage him rather than in the certainty and parsimony of the explanations they offer ... thus he can not lose sight of the fact that he is himself the principal subject of his own experimental intervention'* (Kelly 1969).

Kelly's theory of Personal Constructs is formally stated as a fundamental postulate that 'a person's processes are psychologically channelled by the ways in which they anticipate events' (Kelly 1955). This is amplified by 11 corollaries (Bannister & Fransella 1971). The four which relate most directly to the repertory grid are outlined below:

Individuality corollary: persons differ from each other in their construction of events. Thus no two people respond to the same event in the same way, as the event is perceived by each according to his personal construct system. Therefore each individual lives in, and experiences a unique world (Bannister & Fransella 1971). So, in occupational therapy, a busy day might be 'exciting' for one therapist, but 'stressful' to another. With particular reference to this study, a therapist who spent a long time with a client, talking with him for half an hour might be seen to be 'lazy' by one colleague but 'showing empathy' by another.

Commonality corollary: to the extent that one person employs a construction of experience which is similar to that employed by another, his or her processes are

psychologically similar to those of the other person. People may be thought of as similar not because they have similar experiences but because they interpret and anticipate events in a similar way. The impact of the commonality corollary is twofold. Button (1985) points out that while people tend to form groups on the basis of similarities (for example gender or occupational), the similarity Kelly is emphasising is similarity of *constructing* not of experience. This is important as it emphasises that people can have the same views without having had the identical experiences; it is their interpretation which is important. As the subjects of this study are operating within the same professional domain it is likely that similar verbal labels do imply similar constructions.

Organisational corollary: each person characteristically evolves, for his or her convenience in anticipating events, a construction system embracing ordinal relationships between constructs. Thus an individual's constructs are not a meaningless jumble but are linked together in a pattern which has meaning. Within this system the constructs are hierarchical (Bannister & Fransella 1971).

Dichotomy corollary: a person's construction system is composed of a finite number of dichotomous constructs. As Kelly considers each construct is bipolar it is important to examine what an individual views as the positive and negative poles (Bannister & Fransella 1971). To understand a person's perception of '*friend*' it is necessary to know what he considers the opposite - is it '*enemy*', '*stranger*' *or* '*acquaintance*'? With reference to the occupational therapy profession the

bipolar construct of *'professional'* may not necessarily be *'novice'* but rather *'amateur'*, *'unprofessional'* or *'unqualified'*.

Fransella and Bannister (1977) however, contended that there was no need to use the Repertory Grid technique exclusively within the framework of Personal Construct Theory, but that the researcher must be aware of the underlying assumptions of the theory. Kelly's (1955) original technique was the role construct repertory test which was used to investigate role relationships in clinical settings, namely between patients and their families, friends and others, and for assessing relationships between a patient's constructs about people. This technique has since been used in various settings other than the clinical one, from counselling and psychotherapy (Epting 1984), to education (Beaill 1985), to industrial and commercial settings (Stewart & Stewart 1981).

Elicitation of elements

The repertory grid is a rectangular matrix in which a set of stimuli (elements) are located on a series of construct dimensions, some or all of which may be supplied by the investigator who must make an initial decision as to the extent to which to define the elements and constructs on the grid.

Considerable use has been made of grids in which the elements are specified by the interviewer and are subsequently used to elicit personal constructs from the subject. The nature of the elements selected by the interviewer is likely to have an

important bearing on the constructs elicited. They should be chosen carefully to be a valid and representative sample of the field under study.

A topic which must not be overlooked is that of the *context* in which the elements are to be construed. To fail to specify this is at the outset may well allow the respondent to switch contexts during the elicitation of constructs.

Kelly (1955) reflected his interest in similarity and contrast in his procedure for eliciting constructs from each respondent, who was first required to identify as elements a series of individuals known by him to match a series of role titles. Kelly presented the elements three at a time, asking the respondent to say in which way two were alike but different from the third; each triad thus elicited a bipolar construct, to either end of which the remaining elements were assigned. The triadic elicitation procedures were then repeated with successive sorts, deliberately chosen to focus attention upon specific relationships, until no further constructs were produced.

Research, based on triadic elicition, has drawn attention to the importance of two features - the way the triads are chosen and the way in which the contrast is elicited.

It was noted that Kelly (1955) deliberately chose specific triads to serve his purposes. In doing so the possibility has to be recognised that the resulting grid may contain concepts of the investigator's perception of the problem. Without

any strong justification for choosing to use particular triads it is probably preferable to assign elements randomly to triads, ensuring that each element is selected the same number of times.

Having selected an appropriate procedure for selecting triads the investigator might consider their sequence of presentation. Bender (1974) found a significantly greater tendency to produce important constructs when successive triads were varied by two elements at a time, rather than by one ('self', in this experiment, would be a common element in all triads). He argued that by changing only one element at a time, the investigator might present a new stimulus which was not particularly important to the subject who might be focused to give a construct of lesser personal importance.

Kelly (1955) further cautioned that the verbal labels offered by respondents might not adequately reflect their underlying constructs. Steps can however, be taken towards ensuring that a clear understanding of the way a respondent perceives his world is acquired by the process of *laddering*. This process of laddering comprises the interviewer asking a series of *WHY ?* questions in relation to the constructs elicited. Thus interviewees are asked why in general they like to work with people at one end of the construct rather than the other. The preference is noted and then they are asked why they have that preference, and so on until they are unable to answer. This process of laddering may also be conducted downward. It is especially useful when a construct is too general and requires to be broken down

into smaller components. In this instance *HOW?* questions are asked for example 'can you tell me more about how A & B are different?'

There is a temptation to elicit or supply mono-polar constructs and to ask that elements be rated as to the extent to which they exhibit the characteristic of the construct, but there is considerable uncertainty as to the nature of the 'opposite' end of the construct. It becomes essential that the method for eliciting constructs should ensure that they are expressed in the form X - Y rather than X - Not X. Epting (1971) compared the 'difference' and 'opposition' approaches and found that the latter produced constructs with a more specific bi-polarity. The different method would appear to produce superficial bipolar constructs.

Application of Kelly's Personal Construct Theory

Kelly's background as a clinical psychologist led to his development of the technique in an effort to present a method of data collection which, firstly, focused on the individual, rather than large groups. This was typical of studies at the time. Kelly disliked the idea of the individual being 'fitted into boxes' (Pollock 1986). As a psychologist he wanted to be able to record the clinical problems of his patients and to use these records or measures in his therapeutic approach and to re-measure after therapy (Winter 1992). He was also concerned about the extent to which patients relied on the expert to tell them what their problems were. Kelly took the view *"If you wanted to know what is wrong with someone, ask him .... he probably knows"* (Stewart & Stewart 1981). The therapist therefore served the purpose of forcing the individual to confront his/her own problems or situation.

The Grid was therefore 'invented' as a way of getting patients to describe to him their construct systems.

The Repertory Grid technique has been used extensively in the treatment of psychiatric illness where the structure of an individual's constructs may assist in establishing a diagnosis, or changes in the interrelationship of constructs may indicate a response to treatment (Winter 1992). The use of the grid evolved from the clinical field and has been applied in a variety of settings, proving to be a flexible tool for many types of investigations. It has been used in market research, counselling, attitude surveys, team building and training (Stewart & Stewart 1981).

In Britain, Nash (1973) used the Repertory Grid technique to obtain teachers' attitudes to pupils, and then used those attitudes combined with a 4-point rating scale to measure the individual teacher's attitudes to his/her pupils. Davis (1983) used Repertory Grids to investigate nurses' perceptions of nurses, doctors and physiotherapists in America with regard to pre-operative information giving. Pollock (1987) also used Repertory Grids in examining the work of community psychiatric nurses in Scotland and in comparing with other groups of nurses. The investigation which is most relevant to the present occupational therapy research is the study conducted by Morrison which examined trained nurses perceptions of caring carried out in Wales (Morrison 1991). This inquiry compared different perceptions of various staff within the nursing profession, in that they all had a common base of nursing but had different constructs of 'caring' from the elements

chosen. In the present study the subjects are presented with similar elements and it is envisaged that different constructs will be elicited.

Studies in clinical, management and educational settings indicate that the repertory grid is now a well-established diagnostic and research tool. Its idiographic nature encourages the interviewee to use his or her own words when discussing issues of personal importance. It also provides information promoting detailed exploration of personal meaning with a record which is easily compiled (Pollock 1986).

The grid gives a structure to subjective information, therefore allowing for comparison to be made between individuals. The structure provided also allows for the analysis of relationships between constructs and between elements and for analysis of change not only within the same individuals but also over a period of time. Observer bias is reduced "almost to zero and objectivity is maximised" (Rowe 1971).

The control involved in the application of the technique ensures that each interview is structured and is truly constructed. The interviewers/observers are forced to be quiet, therefore their input is minimised (Stewart & Stewart 1981). The rigour of the 'compare and contrast' techniques ensures that the interviewees elaborate their understandings. Additionally the conversational format of the technique offers itself as a tool which is simple and enjoyable for the interviewees and does not provoke anxiety in them (Watson 1970). The technique reassures that their own

opinions are being sought, so makes explicit that there are no right or wrong answers (Pollock 1986).

The value of the technique can be summarised as follows:

a) the individual focus of the technique provides an effective means of exploring an individual's perception (of people, events, activities);

b) observer bias is reduced almost to zero and objectivity is maximised;

c) the method minimises input from the observer / interview;

d) each interview is structured and truly constructed;

e) the conversational format offers itself as a tool which is simple and pleasant for the interviewee, the respondent is reassured that his/her own opinions are being sought, so there is no right or wrong answer;

f) the method makes it difficult for the interviewee to interpret its aims and to introduce and maintain systematic bias in the responses (Rowe 1971);

g) repertory grid obtains qualitative data and information in a systematic manner;

h) the results can also provide quantitative data which can be complementary to the qualitative findings.

Having decided on a grid format appropriate to the area under investigation the following three main phases must now be considered: elicitation of elements and

constructs, location of elements on construct dimensions and the method of analysis of the grid.

Practical procedures for conducting a grid interview

First, a number of *elements* are selected. These are concepts representative of the area selected by the interviewer. Each element is written on a small card. The interviewer then takes the cards, three at a time and in a given order and instructs the interviewee to put two of them together so that they resemble each other and differ from the third. The interviewee in describing the reasons for the arrangement of the elements defines the bipolar distinctions perceived between them. This process is termed *construct elicitation;* the bipolar distinctions being the constructs. It is essential to record the constructs in the language used by the respondent. Each set of three element cards may produce a number of constructs. When no further constructs are forthcoming another triad of cards is presented, and so on in a predetermined pattern.

Analysis of data

Grids may be analysed in a number of ways. Frequency counts are the simplest method. When a simple count of the number of times an individual element or construct is mentioned it is noted. From this a rank order of elements and constructs can be produced. If a standard set of eliciting questions is used to produce the elements, the answers given to each question can be examined. Content analysis works in a similar way to the previous analysis but here elements

and constructs are counted by category. Computer analysis of the full grid can also be conducted.

6.3 Specific procedures for application of repertory grid interviews to occupational therapy investigation.

Ethical considerations and selection of subjects.

Subjects should be fully informed of the purpose of the study but feel under no obligation to participate. The main ethical issue to be addressed is one of confidentiality. The data would be, of necessity, "public" in its final form, but subjects should be assured that individuals could not be identified in this reporting.

In order to explore potential differences between graduates and supervisors it was necessary to ensure that both groups agreed to participate. The subjects who participated in this study cannot in the strict sense be regarded as a representative sample, although they belong to the larger population of graduate therapists and senior staff.

The issue of confidentiality was considered important with regard to the present investigation, as the researcher was an occupational therapist conducting research within the sphere of occupational therapy as a profession. This brought a knowledgeable sensitivity to personal and professional information which could be threatening; in addition the subjects and supervisors were known to the researcher.

Interview bias

As the subjects and supervisors were known to the researcher this raised the issue of bias and the need for detachment (Polgar & Thomas 1995). The researcher used the strict protocol procedure of the repertory grid interview in order to minimise bias, using identical instructions with both graduates and supervisors, giving no additional prompts or examples but leaving the interviewee to identify constructs without input from the researcher. Although the interviews were all conducted within clinical settings, informal discussions regarding clinical situations, progress of the graduates or other common issues were discouraged until the formal interview had been conducted, and even then informal discussions were restricted in order to minimise bias.

6.4 Specific study considerations related to occupational therapy investigation

Preparation stage

The 1993 cohort of students was contacted by letter, giving information regarding the extension to the research and requesting their participation in the study. The co-operation of their immediate work-place supervisor was also sought. A follow-up reminder was sent one month later.

Selection of elements

As the subjects and supervisors were working in a variety of settings it was considered essential that the subjects should generate a list of *elements*

spontaneously in response to the researcher's instructions. In this way the *elements* would have direct personal relevance to the interviewee. Fransella and Bannister (1977) raised the following points to consider when deciding how to select elements.

a) 'Elements are chosen to represent the area in which construing is to be investigated' (Fransella and Bannister 1977)

In view of the subjects of this study all elements selected were occupational therapists. This is appropriate when investigating perception of occupational therapy graduates.

b) 'Elements must be representative of the pool from which they are drawn' (Fransella and Bannister 1977).

Thus by providing a range of role titles as suggested by Kelly (1955), but allowing the subject to choose the particular element from within the occupational therapy sphere, it was hoped that the elements would be sufficiently representative of the specific social pool from which they were drawn. Although there are numerous options of elements available, the chosen elements had to be within the 'range of convenience' of both subject groups. This would be unlikely if complex elements were chosen. The role titles therefore had to be both representative of the subjects and of the work-place supervisors, meaning role-titles which were common within any occupational therapist's sphere of work. The role-titles chosen included

therefore 'the most effective basic grade occupational therapist with whom you have worked' or 'the best occupational therapy student with whom you have worked'.

In the pilot stage various lists of elements were tried in order to maximise the contrast between elements presented in each triad and yet retain a sequential presentation protocol.

The final list of role titles chosen for the student subjects was as follows:

1. Yourself
2. Your supervisor
3. The most effective basic grade occupational therapist you know
4. The least effective basic grade occupational therapist you know
5. A good student occupational therapist you know

The final list for the work-place supervisors was as follows:

1. Your supervised member of staff
2. Yourself
3. The most effective basic grade occupational therapist you know
4. The least effective basic grade occupational therapist you know
5. A good student occupational therapist you know

Pilot study and familiarisation period

As the researcher was unfamiliar with the use of Repertory Grids a period of familiarisation was considered essential, prior to undertaking the formal pilot study. This familiarisation period involved the researcher conducting several full

Repertory Grid interviews (using every-day elements CAR, DONKEY and TRAIN) with students from student cohort 1992 (Cohort 1992 - the previous group of students) in order to become accustomed to the actual process of the interview.

Following this, a pilot study was undertaken using the elements chosen for the occupational therapy investigation. Two graduates, from the previous cohort of students (Cohort 1992) and their supervisors, who were not familiar with Repertory Grid interviews were carefully selected for the pilot. These subjects were familiar with the earlier part of the study being from the same university and the research subjects. This pilot study allowed for some final refining of the data collection instrument, the questionnaire and consequent ease of administration and format of the interview.

Biographic questionnaire

To allow the collection of biographic information from the subjects and in particular with regard to the work-place supervisors, it was decided to use a questionnaire. This was designed to provide relevant background information such as type of occupational therapy training, age, length of time in employment, grade and area of speciality and would provide comparison between the graduate and supervisor and had to be completed during the time when the scoring gird was being prepared. This is shown in Appendix III.

Occupational therapy study data collection

Each interview, lasting approximately one hour, was conducted within the participants' work-place, either hospital or social work department. Initially the subject or supervisor, through a practice session was familiarised with the construing process and any questions answered regarding the process. The study interview was then conducted according to the protocol. While the researcher was preparing the grid for scoring, the subject completed the biographic questionnaire. The subject then scored the chosen elements on the prepared grid. The interview was then finished, but if the subject had any further question or wished to discuss any points that had arisen, time was taken to do this.

Interview protocol

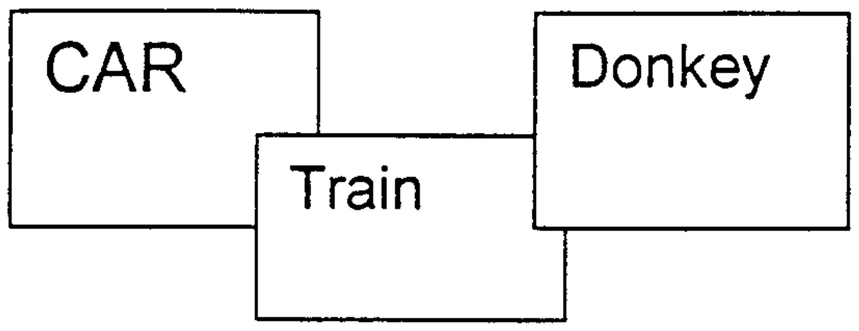
Each stage of the Repertory Grid Interview will now be described in detail.

A brief explanation of the study and Repertory Grid was given and the subject (supervisor) was assured of confidentiality. Those subjects unfamiliar with the Repertory Grid process were taken through a practice session as follows.

Training of subjects and supervisors

A practice session of construct election by triad of elements was conducted using the CAR-TRAIN-DONKEY triad as an example (Stewart & Stewart 1981). In this exercise the subject was asked to consider the three 'elements' CAR, TRAIN, DONKEY and to tell the researcher 'an important way in which two of these items are like each other and yet different from the third' (see Figure 3).

Figure 3 Example of elements



A typical response was that the car and train were mechanical, while the donkey was alive. Other constructs included 'fast - slow', 'born - made', 'hard - furry'. By asking the subjects to try and think of another way in which there was a similarity and a difference within the triad, the point was made that there was more than one answer; this also helped to illustrate that there was no 'right' answer, but simply a personal view or matter of opinion.

The subject (or supervisor) was asked to think of an occupational therapist with whom he/she was currently working, or with whom he/she had worked recently, who fitted the description and to write their name or initials or feature on a small card. The result of this exercise was five numbered cards which contained:

name / initials of occupational therapist element together

with the subject's code number

(For an example from one interview see Appendix IV)

The researcher then presented the elements cards in groups of three to the subject according to the protocol (Appendix V) and the respondents were helped to elicit

bi-polar constructs from comparing the characteristics of five people (the 'elements' referred to above) that they had identified from the list of title roles

The sequence was run twice for each subject in order to elicit constructs relating to two different areas. The two questions used were:

1. "Please tell me an important way in which two of these occupational therapists are like each other and yet different from the third in terms of their work habits".

2. "Please tell me an important way in which two of these occupational therapists are like each other and yet different from the third in terms of their relationships with colleagues".

The construct elicited by each triad was recorded by the researcher and the elements which had provided the construct identified. This procedure produced, for each subject, a bi-polar and personally meaningful set of constructs relating to themselves and occupational therapy, and provides the basis for the analysis of graduates and supervisors ideas about graduates and occupational therapy.

Having completed the interview according to the protocol, the researcher asked the interviewees to complete the biographic questionnaire. This would elicit information regarding training, length of time qualified, further training, length of time in post and perceptions of work area. While the interviewees were

completing this task the researcher transferred the elicited constructs to the scoring grid. When the questionnaire was completed, and the scoring procedure had been explained, the subject was asked to score each occupational therapist element on the elicited constructs using a 5-point rating scale (1 being the positive end of the bi-polar construct and 5 being the negative end of the construct). This produced two scored grids for each subject (Appendix VI). These scored grids provided the basis for analysing how the two groups of occupational therapists viewed the graduates' work skills and work qualities.

6.5 An example repertory grid

Figure 4 shows an example repertory grid taken from the pilot study. The elements used in the study are identified as follows:

E1 = student

E2 = supervisor

E3 = best occupational therapist

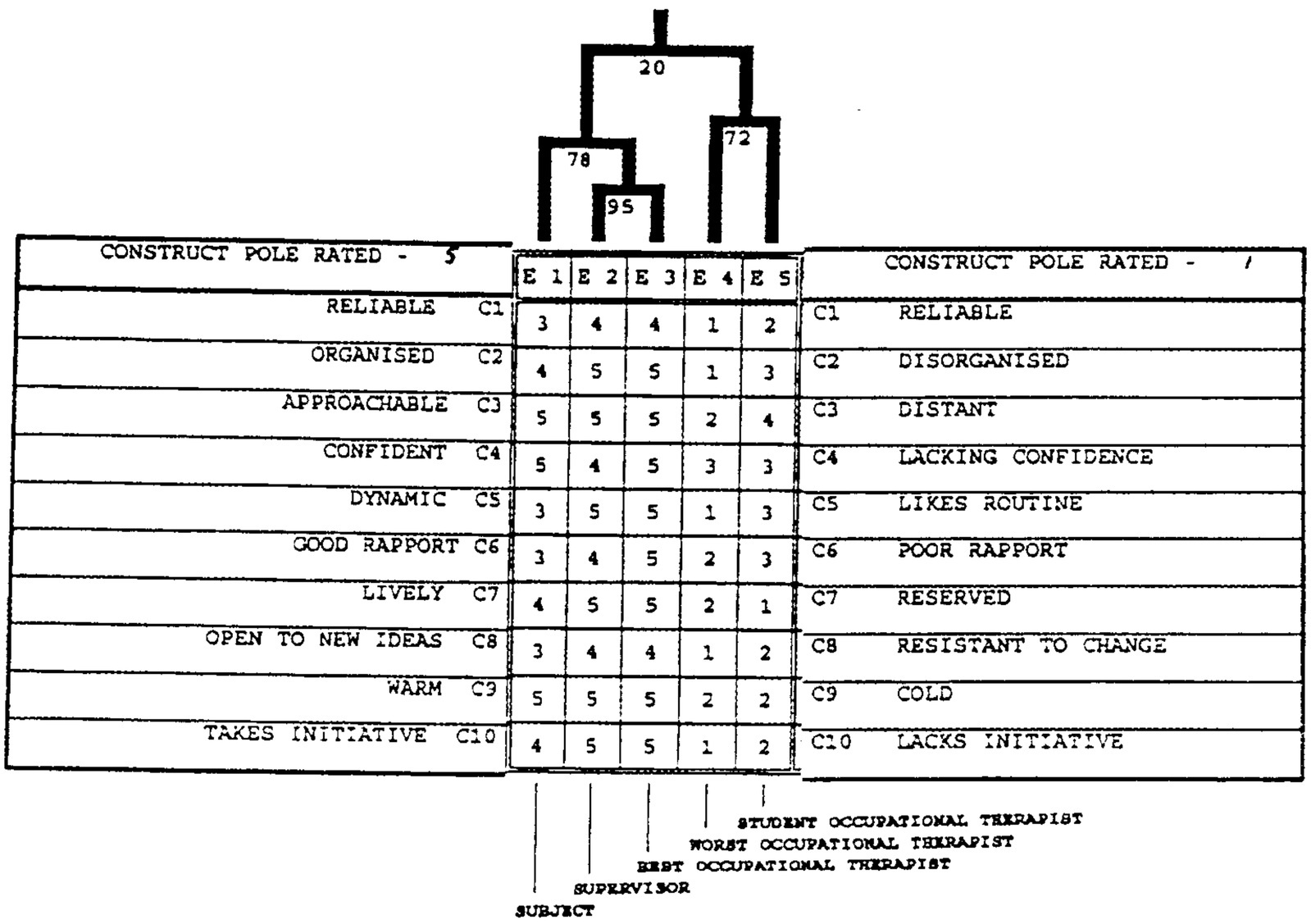
E4 = worst occupational therapist

E5 = student occupational therapist

In this grid 10 constructs were elicited from the interviewee (C1 – C10). Each element was then rated on each construct on a five-point scale. The FOCUS programme calculates the correlation between the ratings for each element. The

pattern of correlation between the elements is shown at the top of the grid, with the correlation percentage identified.

Figure 4 Example of a full repertory grid



This grid shows a 95% correlation between the ratings given to the 'supervisor' and those given to the 'best occupational therapist'. There is a 76% correlation between this first correlation and the rating given to the 'student occupational therapist'. The correlation between the ratings for 'worst occupational therapist' and 'student occupational therapist' is 72%, and there is a 20% correlation between these two main groupings.

Following completion of the individual interviews the researcher sought permission from each couple of subjects (student and supervisor) to forward a photocopy of each Repertory Grid to each. This allowed the subjects to discuss the finished Grid with their supervisor. Each couple of interviewees accepted this proposal. This was in agreement with Pollock (1986) who stated that Repertory Grids promote personal and professional growth and development. The researcher considered it important to 'give something' to the subjects which they could use in supervision sessions later.

Additional considerations

It was acknowledged that the cohorts of students from university A knew the researcher and the researcher would be one of the experts involved in marking assessments. Staff members at both universities also knew the researcher. This may have had an influence in the investigation results and in particular the response rate.

As the students may have:

a) submitted self-reporting forms to please the expert;

b) have under-rated / over-rated in order to please the expert.

These concerns were addressed by ensuring that forms were returned to a pre-determined collection point and that confidentiality was maintained throughout. No reference was made to the research findings during the collection of data period. When students did make reference this was discouraged.

7 Results

The results from this multi-focused investigation will be presented in two main sections for ease of reporting; (i) self-assessment in the academic context (ii) self-assessment in the workplace.

i) Educational context

This comprises three elements,

a) analysis of course documents

b) findings from self-assessment questionnaires to students and to staff;

c) results from self-rating forms.

Before proceeding it is important to consider subjects' participation within the investigation.

7.1 Study participation

In 1992 a total of 79 students were recruited from the two centres to participate in the study and in 1993 a further cohort of students from one centre was recruited, bringing the total student sample to 110 subjects. This represents three different cohorts of students, two cohorts from University A (North East Scotland) and one cohort from University B (Central belt of Scotland).

A time span of approximately four academic years 1992 - 1995 was allowed to permit time interval data to be collected from the subjects as follows:

University A	cohort 1992	3 years of data (1992 -1995)	(30 students)
University B	cohort 1992	3 years of data (1992 - 1995)	(47 students)
University A	cohort 1993	3 years of data (1993 - 1996)	(33 students)

In addition, a total of 15 academic staff were included in the study, representing six staff from University A and nine staff from University B.

7.1.1 Response rate from student self-assessment questionnaire

A total of 96 (73.33%) from 110 distributed to students and 15 distributed to staff were returned (Table 1), of which less than 1% were not fully completed.

Table 1 Distribution and responses to questionnaires.

n = 125

Survey	Numbers distributed	Total responses
students (university A & B)	110	88 (78%)
staff (university A & B)	15	8 (53%)
Total	125	96 (76.8%)

Students' responses

Of 110 questionnaires distributed to students at the two universities, a total of 88 (80%) were returned. There was very little difference in the individual response rates from the two universities; a 78% and 77.5% response rate from university A and university B respectively.

Staff responses

It is important to note that there was a relatively low response rate from the staff of both universities. University A has five occupational therapy trained members of staff of which four returned questionnaires, university B has 10 occupational therapy trained members of staff of whom only four returned questionnaires despite reminders being issued.

Comparisons between students and staff responses will be made.

7.1.2 Response rate from self-rating forms

The self-rating forms were distributed directly by the researcher within University A and by a member of staff from University B. Wherever possible the self-rating forms were distributed to students at the beginning of a class by the researcher. The forms were completed by the students and returned immediately. This process may have had a direct affect on the response rates for both the self-rating forms and the questionnaires. Difficulty arose in getting forms returned from university B where the researcher was dependent on a member of staff in that university distributing and collecting forms. Other problems that arose included staff returning marked assignments before students completed the forms. Returns from University A were higher as the researcher had direct contact with student group.

The response rate was generally good with Cohort 1992 from University A having an average response rate of 83.68% across the total of 19 assignments, cohort

1993 from University A had an average of 75.79% response rate across 19 assignments. By comparison cohort 1992 from University B had an average return rate of 71.14% across a total of seven assignments. Although the rate of return from University B is not significantly different to that of University A it should be noted the difference in actual return rate for individual pieces of assessment varied from 41% to 100% return rate overall. Tables 2, 3 and 4 show the overall response rates together with response rates for individual pieces of course work for each of the cohorts.

Table 2 **Response rate to self rating forms over three years - cohort 1992 University A** n = 30

Assessment	Number of students in cohort	Number of forms returned	% returned
OT essay	30	21	70%
Teaching essay	30	28	93%
Psychology essay	30	24	80%
Objective Structured C. Exam	30	28	93%
Sociology essay	30	23	76%
Health Promotion essay	30	24	80%
Behavioural exam	30	29	96%
Biological exam	30	29	96%
Case Study 1	30	25	83%
Neuroanatomy test	30	25	83%
Psychiatry essay	30	24	80%
Physical essay	30	24	80%
Case Study 2	30	26	86%
Behavioural essay	30	26	86%
Biological essay	30	27	90%
Case Study 3	30	24	80%
Paediatric essay	30	20	66%
Literature Review	30	26	86%
Final Examination	30	26	86%
Overall response rate	30	25 (average)	83.68%

Table 3 **Response rate to self-rating forms over two years - cohort 1992 University B** n = 49

Assessment	Number of students in cohort	Number of forms returned	% returned
Anatomy and Physiology exam	49	24	48.97%
Psychiatry essay	49	42	85.57%
Case Study	49	38	77.55%
MOI assignment	49	38	77.55%
Psychiatry exam	49	38	77.55%
OT exam	49	38	77.55%
Literature review	49	25	51.02%
Overall response rate	49	35 (average)	71.42%

Table 4 **Response rate to self-rating forms over three years - cohort 1993 University A** n = 34

Assessment	Number of students in cohort	Number of forms returned	% returned
OT essay	33	27	79%
Teaching essay	33	21	61%
Psychology essay	33	21	61%
Objective Structure C. Exam	33	30	88%
Sociology essay	33	23	67%
Health Promotion essay	33	24	70%
Behavioural exam	33	28	82%
Biological exam	33	30	88%
Case Study 1	33	25	73%
Neuroanatomy test	33	34	100%
Psychiatry essay	33	26	76%
Physical essay	33	26	76%
Case Study 2	33	20	59%
Behavioural essay	33	31	91%
Biological essay	33	31	91%
Case Study 3	33	14	41%
Paediatric essay	33	19	55%
Literature Review	33	31	91%
Final Examination	33	31	91%
Overall response rate	33	24 (average)	75.79%

The 1368 returned forms represent an 80.15% overall return rate from 45 different pieces of academic course work from the 113 students.

It is noteworthy that even though the researcher distributed and collected the forms at the beginning of class, not all were completed. In fact there is only one 100% response rate (the neuroanatomy test - cohort 1993 university A). Case Studies 1,

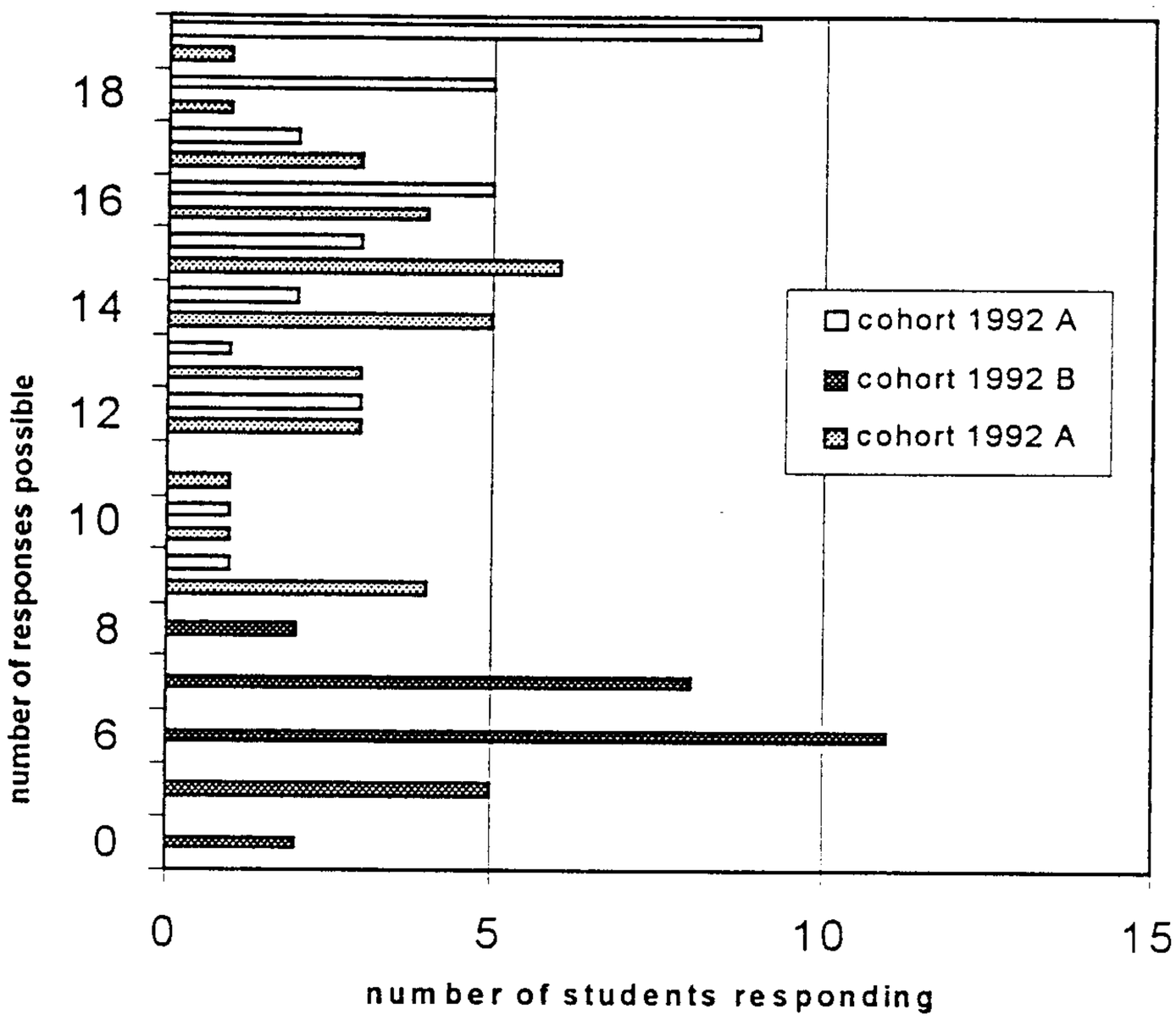
2, and 3 have generally the lowest response rate from cohort 1992 and cohort 1993 from university A. These pieces of work were drawn from information gained on fieldwork placements. Cohort 1992 from university B have generally a lower response rate that university A which may be due to the lack of direct involvement with the students by the researcher.

Response rates from individual students

Whilst the overall response rate from each of the cohorts was good, it is interesting to note the responses from students within each cohort over the research period. As can be seen from Table 5 the average response rate per student in cohort 1992 university A was 16.1 from a maximum 19 possible returns. Students in cohort 1993 from university A had an average response rate of 13.3 (from a maximum 19), whilst the average response rate from students at university B was 5.2 (from a maximum 7). The greater number of students did in fact complete most of the self-rating forms. There was no student who consistently did not complete the forms at university A. There was a total of seven 'no responses' from university B.

Low response rates were either due to students leaving the course or students who joined the course in second year (students who had completed an HNC in Occupational Therapy Support prior to transferring to the BSc in Occupational Therapy).

Figure 5 Number of students completing self-rating forms



7.1.3 Response rate for repertory grid interviews

Of the 29 graduates in the 1992 cohort at university A, a total of 15 graduates agreed to take part in the repertory grid interview. (See Table 5). Cohort 1992 from university B were not included in part of the investigation due to problems of confidentiality.

Table 5 Participation in repertory grid interviews

participation	Number
Immediate agreement	8
Agreement following reminder	7
Complete refusal	1
Non-return despite follow up	3
Not included as first post outwith Scotland	4
Not included as not yet in occupational therapy employment	1
Not included as did not graduate	1
Not included as remained at university to take honours year	4
Total	29

All workplace supervisors agreed to participate in the study. Comparisons between students and workplace supervisors regarding for example age, length of time working as occupational therapist, qualifications are given in Table 6.

Table 6 Comparisons of graduates and workplace supervisors

Characteristics	graduates n = 15	Workplace supervisors n = 15
Gender	14 female 1 male	13 female *(2 supervisors supervised two graduates)*
Age (mean) years	30.8 years *(21 - 53 range)*	33.8 years *(26 - 46 range)*
Grade	15 basic Grades	5 Head of service 9 Senior staff 1 senior Social Worker
Length of time working (mean)	6.9 months	9.1 years
Previous employment prior to training as occupational therapist	11 *(5 as OT helpers, 3 care assistants and others in health related areas)*	5 *(mainly clerical, administrative work)*
Qualifications obtained	15 BSc in Occ. Therapy *(2 previously having HNC in Occupational Therapy transferring to second year of BSc)*	6 Diploma in Occ. Therapy 2 Diploma with conversion courses to BSc OT 4 BSc OT 1 degree + Diploma in Social Work

Of the fifteen interviews conducted, ten were in health based settings including community based services such as day hospitals and community health teams. The other five interviews were in Local Authority social work settings.

7.2 Content analysis of documents

The investigation of course documents revealed that both universities had very detailed and clear documentation of the individual courses, including course content and assessments used. Information was also provided regarding resources, support available including information on personal tutoring, student/staff liaison appointments, studies advisor and counselling services. The documents are identified in Table 7.

Table 7 Documents examined

University A Documents	University B Documents
Definitive Course Document	Course Document
Unit Descriptors	Student Handbook
Annual Report	Annual Report
Assessment schedule	Assessment schedule
Students Records	University Prospectus
Annual Reports	Annual Reports
University Prospectus	Timetables
Fieldwork Educators Manual	
Assignment feedback forms	
Timetables	

From these documents demographic information regarding the three cohorts of students was extracted. Entry requirements for both courses state that 'Applicants should normally have attained the age of 18 years by the 1st September of the year in

which they wish to commence the course and have experience of disabled or disadvantaged people'. The mean age for students in the cohorts can be seen in Table 8 together with the distribution of female and male students.

Table 8 Characteristics of students group

Student Group	Total number	mean age At start of course	gender	
			male	female
cohort 1992 (A)	30	25.6 years	2	28
cohort 1993 (B)	34	25.9 years	4	30
cohort 1993 (A)	49	22.6 years	5	42

It is significant to note the significant number of mature students within each cohort. (The definition of mature being over 25 years of age as given in the Family Act 1984 and used by Scottish Department of Education in granting financial awards to students). Full details on age distribution is shown in Table 9.

Table 9 Age distribution within the three cohorts

Age Group (years)	Cohort 1992 (A)	Cohort 1992 (B)	Cohort 1993 (A)
18 – 20	14	25	11
21 – 25	6	10	12
26 – 30	1	7	3
31 – 35	1	4	3
36 - 40 years	4	3	4
40 +	4	0	1
All	30	49	34

For comparison purposes the age distribution of students in University A (1995/96) are given. The statistics for total 6249 students within the university (1995/96) with regard to age groups is given in Table 10 for comparison.

Table 10 Age range of students at University A (1995/96)

Age	Number of students	%
Under 18	442	0.7
18 – 20	3089	49.4
21- 24	1714	27.4
25+	1004	16
Total	6249	100

Entry requirements for both courses also state that applicants should have minimum educational qualifications as follows:

Scottish certificate of education - five S C E subjects, of whom three should be a higher grade including Higher English. The subjects should include a science and a mathematical subject.

or

General certificate of education - five G C E subjects, of which two be A level. The subjects should include English language, a science and a mathematical subject.

or

Alternative academic qualification e.g. SCOTVEC or BTEC - the universities have a wider access policy under which any person is eligible for entry to a course providing the institute has reasonable expectation that he or she is able to achieve the standard required for the aware. Particular consideration will be given to mature students.

In analysing the entry qualifications of students starting the course in 1992, it is apparent that students had attained more than the minimum requirements. On average, students who were less than 21 years at the start of the course had 5 Higher passes and those 21 years and over had 3 Higher passes.

In looking at the actual grades achieved by students prior to the course, the following scale was used to calculate points for grade achieved:

A level -	A pass = 6	SYS -	A pass = 5	Higher -	A pass = 4
	B pass = 5		B pass = 4		B pass = 3
	C pass = 4		C pass = 3		C pass = 2

On average students who were less than 21 years at the start of the course had 13 points and those 21 years and over had 9.5 points. Seven of the mature students had gained HNC in Occupational Therapy Support, which gave direct entry to second year of the course. These high number of Higher grades and of 'points ' indicate that students entering the course have more than the minimal requirements asked by the universities.

In examining the definitive course documents, it became evident that although the course teams had used different wording for the aims and objectives of their individual courses the underlying philosophies were very similar. The individual objectives were compared for content and are presented in relation to their commonalties. The courses have a very strong emphasises on 'professional development', 'evaluation' and preparing for life-long professional development, with both courses identifying 'self-appraisal' or 'thinking critically about own continued professional development'. It should be noted that there are more objectives relating to development and evaluation than to knowledge needed to actually treat clients.

The course aim(s) and objectives for both the courses were identified as follows:

University A BSc Course Aim

The overall aim of the course is to prepare students for the professional practice of occupational therapy and for lifelong professional development. This requires a wide range of personal, interpersonal, cognitive and psychomotor skills not only to meet current needs but also to contribute to and adapt to innovation in response to demographic, social and economic change.

BSc Course objectives

The course objectives are that by the end of the course the student will be able to:

1. demonstrate the knowledge, skills, attitudes and ethics necessary for competence to practice as basic occupational therapists and for State Registration;

University B BSc Course Aims

1. To enable the student to analyse and synthesise professional knowledge, skills and attitudes, which will allow her/her to practice as a safe, competent therapist who, can evaluate practice and handle change in the work situation.

2. To enable the student to gain problem solving abilities, which will allow him/her to become a therapist who, is proactive in innovative developments which will demonstrate the effective contribution occupational therapy has to offer to health and social care delivery now and for the future.

BSc Course Objectives

By the end of the course the student will be able to:

2. synthesise the different elements of the course into a coherent whole.

2. assess and treat patients, using an holistic and problem solving approach and drawing from a repertoire of models, frames of reference and theoretical approaches which foster reflective and creative practice;

3. aim treatment not only at the improvement of function but also at the promotion of health and sustainable life styles of clients and their carers;

4. communicate and co-operate effectively with colleagues, clients and significant others;

5. demonstrate the skills and attitudes for self-appraisal and life-long professional development;

6. apply cognitive and evaluative skills to the appraisal of current practices and the development of efficient and effective social and health policies and practice;

7. demonstrate those qualities of critical analysis, communication and initiative traditionally expected of graduates.

(University A (1993) Definitive Document).

3. establish therapeutic relationships which will allow valid assessment, relevant and critical intervention of each patient/client's programme.

4. evaluate the expertise of colleagues and be skilled in communicating with them to ensure the highest level of patient/client care.

5. evaluate his/her own learning and professional development.

9. think critically about own continued professional development once employed.

6. critically evaluate knowledge of current professional, social and legislative issues that affect the development and delivery of health and social care and relate these to his/her own professional practice.

8. demonstrate/market the value of occupational therapy in health and social care to potential employers/purchasers.

7. critically evaluate the need for and be able to apply the principles of quality assurance across all areas of his/her work.

1. think critically about the philosophy of occupational therapy, evaluate its potential and be skilled in its use.

(University B (1994) BSc in Occupational Therapy. Student Handbook)

From the course documents it was evident that in addition to the course aims and objectives students were also provided with clear 'learning outcomes' for each unit / module within the course with individual staff providing specific learning outcomes for individual classes. Incorporated into the timetables were classes specifically to discuss criteria for assessments. It was also noted that at University A there were 'preliminary' examinations in preparation for final Examinations. These were marked by staff and feedback given. A 'mock' Objective Structured Clinical Examination was used to prepare students for this assessment, so students would appear to be well informed regarding expectations within the course and within academic assessments.

Assessment within the two courses

The two universities regard assessment as serving a number of purposes within the course including establishing whether or not the individual student has achieved the required standard. It is also seen as providing a learning experience whereby the student can estimate progress and, through feedback and discussion, identify future goals and methods of achieving them. The courses have been designed so that students show progression in the acquisition of skills and knowledge and the ability to integrate and apply these skills and knowledge (University A 1993; University B 1994 Course Documents).

A variety of similar assessments methods are used by the two universities and include oral examinations, investigative projects, essays, case studies, part-seen and seen examinations, class presentations and peer assessments. Many of these assessments are composite in which the student is required to state knowledge related to basic

theory and to demonstrate the ability to apply this knowledge (University A 1993; University B 1994 - Course documents).

Table 11 Types of assessments

Institution A	Institution B
1. Course work consisted of: a) teaching reports, essays, case studies, oral presentation, literature, end of year formal part-seen examinations, final three hour seen examination, an objective structured examination (OSCE), unseen multiple choice test and seen tests.	1. Course work consisted of : a) formal individual oral examinations, timed theoretical examinations, completion of learning packages, class presentation and peer evaluation, collaborative assessment, single case study, literature review, take home examination and essay written.
2. Assessment of clinical (fieldwork) experiences during which students carry out a self evaluation and then negotiate their final mark with the supervisor. (Grading - Merit, Pass or Fail).	2. Assessment of clinical (fieldwork) experiences is a collaborative report prepared by student and supervisor. (Grading Merit 1 or 2, Pass 1 or 2, and Fail 1, 2, or 3).
3. Assessment of practical courses practical activities by attendance, completion of reports and practical activities.	3. Practical course assessment includes collaborative reports, activity analysis reports, practical and case study.

During the course cohort 1992 and cohort 1993 from university A would be expected to complete 19 pieces of academic course work. Cohort 1992 from university B would be expected to complete 13 pieces of academic course work.

Although many of the assessments within the two courses use similar words, the underlying types of assessments and practical arrangements are not the same.

Assessment Schedule

University A and University B use a variety of assessment methods and in a variety of combinations. Both courses have been designed so that students can show progression in the accumulation of skills and knowledge and the ability to integrate and apply course material. The assessment programmes are therefore designed to evaluate students' progress on a continuous and regular basis throughout the course and in various ways appropriate to the course objectives. (See Table 12). The academic assessments used within this study are highlighted. It should be borne in mind that those students were also completing other assessments such as clinical placements, practical assessments, collaborative reports etc.

Figure 12 Assessment sche

versity B

Date due	Academic	Practical Courses	Assessment
First Year			
November	Occupation		
December	Occupation		Written Exam.
December			
December			Written Essay
February	Psychology	Activities 1	Collaborative
March	Psychology		Written Essay
March	Occupationa	Activities 2	Collaborative
March			Written Exam.
March			
April	Sociology	IT in OT	Practical
May	Occupationa Health Pron on		Written Assignment
May			Take Home Study
May			Written Exam.
June	Occupationa (Physical di		
June	Occupationa (Behavioral		
Second Year			
October	Occupationa		
November	Neuroanator		Written Exam.
November	Neuroanator		Written Exam.
December		Orthotics	Collaborative
December			
January	Occupationa (Physical dis	Architecture	Case Study
January	Occupationa (Psychiatric		Written Study Oral
January			Written Report
April	Occupationa	Community	Peer Teaching
May	Occupationa (Physical dis n		Written Literature Search
May	Occupational (Psychiatric		Written Exam.
May			Written Exam.
		Leisure	Seminar
		Horticulture	Collaborative
Third Year			
December	Occupational	Horticulture	Collaborative
January	Occupational		
January		Desk Top	Practical
January			
February	Enterprise Pr		Written Essay
March	Occupational		
May	Literature rev Research pro		Written Oral
May	Management Policy		

7.3 Findings from questionnaires

Students' understanding of 'self assessment'

To an open-ended statement, *'Please describe in your own words what is your understanding of self-assessment'*, the responses (n = 86) were varied, but 93% of the subjects were able to give admissible answers. The others failed to give any definition. The main descriptions of self-assessment identified within the answers are categorised into three main areas for ease of presentation.

a) responses which referred to monitoring performance to date or evaluating past abilities / performance (n = 49), for example

'evaluation of past performance';

'looking at performance and achievements';

'realistic assessment of performance'.

b) responses which included reference to reflection on performance and also to future progress and development (n = 25), for example

'accurately predict';

'measuring progress or lack of progress';

'awareness of progress'.

c) responses which made reference to strengths and weakness (n = 10) for example

'identify strengths and weakness';

'estimate own abilities';

'evaluate strengths and weakness'.

Students using self-assessment

Ninety four percent of students indicated that they did use self-assessment and Table 13 indicates the frequency of the use of these skills.

Table 13 Frequency of use of self-assessment by students

n = 86

Frequency	Number	%
always	19	22.1
often	52	60.5
infrequently	15	17.4
Total	**86**	**100**

Areas within which self-assessment is practised

The most common area within which self-assessment skills were practised was clinical placement as can be seen in Table 14

Table 14 Areas within which students practise self-assessment

n = 87

Area	Number	%
placements	87	100
academic studies	59	67.8
practical courses	47	54

Staff encouraging use of self-assessment

The majority of students (95.3%) indicated that staff encouraged students to use self-assessment; the most commonly identified group of staff being clinical supervisors as is shown in Table 15. This clinical bias is further reflected as the main area in which students are encouraged to use self-assessment would appear to be 'placements' as can be seen in Table 16.

Table 15 **Staff who encourage students to use self-assessment**

n = 82

Staff	Number	%
clinical supervisors	69	83.1
tutors in general	58	70.7
personal tutors	38	45.8

Table 16 **Subject areas staff encourages students to use self-assessment**

n = 86

Subject area	Number	%
placements	71	81.6
academic	56	64.4
practical courses	49	56.3
personal profile	1	1.1
personal development	1	1.1

Forms of self-assessment used

A variety of forms of self-assessment methods were also identified by the students of which students profiles were reported as being used most frequently.

Table 17 Self-assessment techniques used by students

n = 84

Techniques used	Number	%
students' profiles[1] *	58	69.0
peer assessment	47	56.0
academic assessments	41	48.8
reflective diaries **	15	17.9
portfolios	3	3.6

* University A ** University B

Many students identified 'profiles' or 'reflective diaries' together with one other form of self-assessment. Other forms of self-assessment identified included clinical placements, course objectives and collaborative reports with clinical supervisors.

Self-assessment as part of the undergraduate course.

Of the 85 (88.2%) students who considered that self-assessment should be part of the undergraduate course, 70 thought that these skills should be introduced in 1st year of the course, the other 15 considered that it should be introduced in second year.

[1] Formative process of students reviewing and recording own personal development.

As to whether self-assessment should be used for formative or summative purposes almost half of the responses indicated that they should be part of both assessment processes as can be seen in Table 18.

Table 18 Formative or summative use of self-assessment

n = 80

Use Formatively or Summatively	Number	%
both	47	58.8
formative	27	33.8
summative	7	8.8
neither	1	1.3

Students attitudes to the use of self-assessment as part of the course.

Students when given a pre-determined list were positive in their responses to the use of self-assessment within the occupational therapy course, reflecting encouraging perceptions of self-assessment. They are highlighted in Table 19. Although students were generally positive and viewed self-assessment favourably, there was understandable anxiety and many of the students were uncomfortable with the concept of self-assessment being used.

Table 19 Students' attitude to the use of self-assessment

n= 80

Positive responses		**Negative responses**	
positive	73 (85.9%)	negatively	7 (8.2%)
confident	32 (37.6%)	anxious	46 (54.1%)
favourably	69 (81.2%)	unfavourably	10 (11.8%)
interested	70 (82.4%)	disinterested	11 (12.9%)
optimistic	62 (72.9%)	pessimistic	18 (21.2%)
comfortable	36 (42.2%)	uncomfortable	44 (51.8%)

Self-assessment skills for the qualified occupational therapist

Seventy-eight (88.6%) of the students considered that self-assessment skills were either essential (61.4%) or necessary (27.2%) for the working occupational therapist. Only five (5.88%) regarded self-assessment skills as unnecessary or irrelevant.

The use of self-assessment within the undergraduate course as perceived by students.

In reply to the question concerning the use of self-assessment within the course 49.25% (n = 33) of response indicated that self-assessment was needed for monitoring progress or evaluation.

For example

'formative more helpful - user friendly';

'guide for student in studies';

'provide opportunities to develop';

'to get complete evaluation of student'.

Twenty-three percent of the responses linked self-assessment to the structure of the course and learning with comments such as:

'checking aims through the course';

'correct on-going problems - too late at the end of the course';

'allows equal balance of assessment within the course';

'not a good basis for "pass" or "fail";

'pick up problems before end of course'.

The third most common reason given (19.4%) indicated that self-assessment was part of personal and professional development, with students alluding to

'development of professional skills';

'preparation for future with supervision from tutor';

'promotion of self development and questioning attitude';

'self-development'.

Staff responses to self-assessment questionnaire

Staff understanding of 'student self-assessment'

The first question on their understanding produced a variety of very full responses, all of which were admissible answers. The main descriptions of self-assessment identified within the answers were similar to those identified by the student group and are therefore categorised into the same main areas for ease of presentation.

a) responses which referred to monitoring performance to date or evaluating past abilities / performance (n = 6) for example

'to critically evaluate and rate their own performance';

'assess their own level of knowledge / understanding'

b) responses which included reference to reflection on performance and also to future progress and development (n = 3) for example

'reviews his/her own professional development';

' students reflecting on own performance';

'reflect on experience and judge how learning has been or could be used'.

c) responses which made reference to strengths and weakness (n = 3)

'to be able to identify own strengths and weaknesses';

'initially students will only see negative points but soon learn to identify positive points as well'.

In addition to the above points staff also identified that students needed help to carry out self-assessment with comments such as:

'it may require input from lecturers, and/or peers and/or clients';

'together with peers or staff or supervisors';

'involves the evaluation of self from a number of different perspectives'.

Self-assessment skills recognised within the BSc course

All staff stated that self-assessment skills were recognised within their courses documentation and that they encouraged students to practice self-assessment as apart of the degree course.

Frequency with which staff encourage use of self-assessment

Although staff indicated that self-assessment was very much a part of the course documentation, only five staff indicated that they 'often' actually encouraged students to use self-assessment, whilst three stated they 'infrequently' encouraged students to use self-assessment. No members of staff 'always' encouraged students to use self-assessment.

Areas within which staff encourage students to use self assessment skills

The responses to this question were similar to those of students, with all staff identifying clinical placements as the areas within which they encourage self-assessment.

Table 20 Areas in which staff encourage students to use of self-assessment

n = 8

Area	Number
clinical placements	8
practical courses	7
academic studies	4
profiles	1

All staff identified that they encouraged students generally to use self-assessment.

Forms of self-assessment used.

Staff identified a variety of forms of self-assessment being used although peer assessment was the most common.

Table 21 Techniques of self-assessment encouraged by staff

n = 8

Techniques encouraged	Number
peer assessment	7
student profiles	6
academic assessment	4
reflective diaries	2
portfolios	1

The forms of self-assessment identified by staff were in general similar to those identified by students

Self-assessment as part of undergraduate course

All staff considered that self-assessments should be part of the undergraduate course and they all agreed that it should be introduced in the first year of the course. Six of the staff identified that self-assessment should be part of the formative assessment process, the reasons including *'helping develop these skills in a less threatening way'* and *'less threatening'*. Three staff identified that it should be part of both formative

and summative giving the reason the *'ongoing self assessment is an important feature of professional practice'*.

Staff attitudes to undergraduate students conducting self-assessments

The majority of staff were very positive with regard to students participating in self-assessment as part of their course as can be seen in Table 22.

Table 22 Staffs' attitudes to the use of self-assessment within the course

n = 7

Positive responses		**negative responses**	
Positive	7 (100%)	Negatively	0
Confident	5 (71%)	Anxious	2 (3%)
Favourably	6 (85%)	Unfavourably	1 (1.5%)
Interested	7 (100%)	Disinterested	0
Optimistic	6 (85%)	Pessimistic	1 (1.5%)
Comfortable	6 (85%)	Uncomfortable	1 (1.5%)

Although there was a low return rate from staff, the majority of those who did respond were very positive towards self-assessment. Staff and students were both certain about the positive aspects of self-assessment. More, however, of the students than staff identified areas of uncertainty although not actually expressing a negative view towards self-assessment.

Self-assessment skills for the qualified occupational therapist

All staff agreed that self-assessment is 'essential' for the qualified occupational therapist with the other members identifying that self-assessment was 'necessary'. This is similar to students' perceptions of the need for the qualified occupational therapist to use self-assessment, with 88.6% of students agreeing that self-assessment was 'essential' or 'necessary'. Only 5.9% of students considered self-assessment skills unnecessary for qualified therapists.

7.4 Analysis of self-rating forms

The classes' mean marks of assessments were calculated, both the students' predicted marks and that of the actual marks received. These two sets of mean marks were then compared in order to establish any trends or patterns in the sets of marks.

Of the 45 pieces of course-work for which students returned self-rating forms, the results show that students consistently under-rated themselves. The total of 1368 self-rating forms were returned, of which 1005 showed that students under-graded their work with 360 students over-grading their work and 30 students grading identical to the experts. Allowing for an error range of 5% on either side of experts' mark, a total of 847 (62%) students were able to self-rate within this range.

The overall mean of all the predicted marks and the actual marks received also highlights that students underestimated their work. Tables 23, 24 and 25 show the mean predicted marks of the cohort together with the mean of the actual mark that the students received.

Table 23 **Students predicted marks and actual marks received - cohort 1992 University A** *(Pass mark for assessments - 50%)*

Assessment	Students predicted mark (mean)	Student range of marks	Actual mark received (mean)	Tutor range of marks
OT essay	57.98%	45 - 70	55.05%	33 -67
Teaching essay	57.17%	47 - 70	59.97%	48 - 75
Psychology essay	55.55%	45 - 65	61.10%	45 - 76
Objective Structured C. Exam	47.80%	34 - 55	61.10%	54 - 80
Sociology essay	55.96%	45 - 68	60.93%	36 - 71
Health Promotion essay	56.25%	45 - 70	61.86%	46 - 79
Behavioural exam	49.89%	20 - 65	56.07%	35 - 73
Biological exam	50.38%	20 - 60	54.90%	35 - 72
Case Study 1	54.88%	45 - 60	62.27%	44 - 74
Neuroanatomy test	55.80%	45 - 75	78.28%	57 - 97
Psychiatry essay	57.98%	50 - 65	59.40%	39 - 74
Physical essay	69.48%	40 - 65	61.17%	30 - 81
Case Study 2	63.58%	45 - 60	65.00%	50 - 74
Behavioural essay	61.19%	45 - 70	64.80%	30 - 83
Biological essay	59.33%	40 - 70	59.00%	46 - 86
Case Study 3	62.53%	50 - 65	65.00%	39 - 79
Paediatric essay	64.10%	50 - 68	65.00%	39 - 79
Literature Review	67.42%	53 - 65	67.41%	51 - 83
Final Examination	61.25%	35 - 65	61.52%	54 - 75
Mean for all assessments	54.36%	20 - 75	62.24%	30 - 97

Table 24 **Students predicted marks and actual marks received - cohort 1992 University B** *(Pass mark for assessments - 50%)*

Assessment	Students predicted mark (mean)	Student range of marks	Actual mark received (mean)	Tutor range of marks
Anatomy and Physiology exam	45.63%	30 - 90	59.00%	29 - 87
Psychiatry essay	54.17%	31 - 75	49.62%	24 - 76
Case Study	54.58%	25 - 70	60.40%	35 - 84
MOI assignment	55.61%	31 - 70	73.21%	22.5 - 95
Psychiatry exam	56.32%	29 - 70	58.29%	15 - 90
OT Exam	57.76%	30 - 65	67.68%	35 - 84
Literature	59.40%	35 - 80	66.64%	40 - 80
Mean for all assessments	54.78%	25 - 90	62.12%	15 - 95

Worthy of note is the comparison of the ranges of marks used within the two universities. Both sets of tutors within the universities would appear to use the full range of marks available, with low marks such as 15% and 20% being recorded. Equally, both university staff would appear to use the top range of marks with examples of 90% and 95% being recorded. The mean marks awarded by tutors for academic work is also very similar with marks of 62.2% being recorded for cohort 1992 university A and 62.1% for cohort 1992 university B. Cohort 1993 university A has a slightly lower mark of 56.6%. This may however be the effect of lowering the pass mark from 50% for cohort 1992 to 40% for cohort 1993.

On all assessments the students' range of marks start below the pass mark inferring that the piece of work is not considered worthy of a pass mark, yet they still handed the work in for marking. This is perhaps understandable in unseen tests and examinations, but with pieces of work which students have had weeks to complete it is perhaps more difficult to understand the reasoning. This is a similar trend in all three

cohorts. However, in university A students only 'fail' as low as 40% (1992) or 35% (1993), as at this level students do not have to repeat the assessment but can compensate from other course work. University B students predicted the lowest mark of 25%, which is of interest as this was a piece of work which they had weeks to prepare. Students were handing in pieces of work which they clearly considered were not worthy of a pass mark.

Table 25 **Students predicted marks and actual marks received - cohort 1993 University A** *(Pass mark for assessments- 40%)*

Assessment	Students predicted mark (mean)	Student range of marks	Actual mark received (mean)	Tutor range of marks
OT essay	50.48%	38 - 70	57.25%	48 - 75
Teaching essay	47.67%	35 - 60	58.95%	45 - 86
Psychology essay	45.76%	35 - 55	58.29%	45 - 75
Objective Structured C. Exam	45.40%	35 - 60	59.03%	54 - 80
Sociology essay	49.87%	40 - 60	48.04%	43 - 70
Health Promotion essay	48.17%	45 - 70	52.33%	40 - 69
Behavioural exam	41.82%	35 - 65	47.21%	34 - 63
Biological exam	40.13%	35 - 50	54.53%	38 - 68
Case Study 1	49.72%	40 - 65	57.92%	41 - 75
Neuroanatomy test	45.74%	30 - 60	71.21%	57 - 97
Psychiatry essay	50.04%	40 - 65	56.58%	30 - 84
Physical essay	47.73%	40 - 60	59.62%	30 - 81
Case Study 2	54.85%	35 - 60	59.45%	46 - 76
Behavioural essay	56.10%	35 - 70	58.71%	44 - 80
Biological essay	56.00%	40 - 70	58.65%	51 - 76
Case Study 3	53.36%	40 - 65	57.86%	50 - 76
Paediatric essay	51.90%	40 - 70	60.32%	44 - 82
Literature Review	57.23%	45 - 70	61.61%	45 - 79
Final Examination	50.90%	35 - 65	55.94%	40 - 65
Mean for all assessments	49.64%	35 - 70	56.57%	30 - 97

The general trend within the marks shows students under-rating their marks throughout their course at the university, with students' marks being consistently lower than those awarded by the tutors.

Correlation of marks

Correlation between students' predicted marks and actual marks received were calculated and the overall probability of students' predicted marks matched with the tutors' marks was determined. The overall probability of students' predicted marks and the actual marks received for each piece of work being the same was calculated for the research period see Table 26.

Table 26 Comparison of students' and tutors' marks on 1366 items

cohort	probability	number of students	significance
1992 (A)	0.2199	631	n.s.
1992 (B)	0.3151	243	n.s.
1993 (A)	0.2951	492	n.s.

Using Person's correlation coefficient, further analysis was conducted with the correlation of each individual piece of course work being carried out over the three years (see Tables 27, 28 and 29 where each piece of assessment is identified). These tables indicate that the probability of students being able to predict their actual marks does show evidence of some improvement over time.

Table 27 **Probability of students predicted marks and actual marks received being the same - cohort 1992 University A** n = 30

Assessments	correlation coefficient	Significance
1st year		
OT essay	-0.1026	p = .633
Teaching essay	0.5965	p = .001
Psychology essay	0.4141	p = .044
Objective Structured C. Exam	0.1991	p = .309
Sociology essay	0.1992	p = .362
Health Promotion Essay	0.1466	p = .494
Behavioural examination	0.5697	p = .001
Biological examination	0.1185	p =.540
2nd year		
Case Study 1	0.0057	p = .968
Neuroanatomy Test	0.6281	p = .001
Psychiatry essay	0.1089	p = .456
Physical essay	0.3496	p = .017
Case Study 2	0.5304	p = .005
Behavioural essay	0.1158	p = .414
Biological essay	0.1718	p = .210
3rd year		
Case Study 3	0.3428	p = .018
Paediatric essay	0.3353	p = .148
Literature Review	0.0329	p = .873
Final examination	0.1886	p = .356

(p = correlation is significant at the 5% level)

This cohort of students would not appear to follow any trend with regard to improvement in their ability to predict their actual marks over a period of time.

Table 28 **Probability of students predicted marks and actual marks received being the same - cohort 1992 University B**

n = 49

Assessment	correlation coefficient	significance
Anatomy & Physiology exam	0.6225	p = .001
Psychiatric essay	0.1491	p = .346
Case Study	0.2831	p = .085
MOI assignment	0.2950	p = .072
Psychiatry Exam	0.1972	p = .256
O T Exam	0.3034	p = .046
Literature Review	0.8165	n.s.

(p = correlation is significant at the 5% level)

Table 29 **Probability of students predicted marks and actual marks received being the same - cohort 1993 University A**

n = 34

Assessments	correlation coefficient	significance
1st year		
OT essay	-0.0987	p = .624
Teaching essay	0.1937	p = .440
Psychology essay	0.2339	p = .307
Objective Structured C. Exam	0.4224	p = .020
Sociology essay	-0.170	p = .939
Health Promotion Essay	0.2418	p = .253
Behavioural examination	0.2372	p = 224
Biological examination	-0.1587	p = 402
2nd year		
Case Study 1	0.2782	p = .178
Neuroanatomy Test	0.7933	n.s.
Psychiatry essay	0.1958	p = .338
Physical essay	0.3849	p = .052
Case Study 2	0.1522	p = .522
Behavioural essay	-0.392	p = .834
Biological essay	0.3018	p = .099
3rd year		
Case Study 3	0.5427	p = .045
Paediatric essay	-0.0819	p = .739
Literature Review	0.5407	p = .002
Final examination	0.5226	p = .003

(p = correlation is significant at the 5% level)

The second cohort from university A, shows a clearer trend with regard to ability to predict marks, despite the fact that cohort 1992 and cohort 1993 were taught by exactly the same members of staff.

Closer examination of this trend was carried out with the different types of assessments being separated into categories. The academic assessments fell into three general categories, the unseen test or examination such as 'Neuroanatomy test and Objective Structured Clinical Examination (OSCE), seen or part-seen examinations such as end of year examinations and completely seen assignments including case studies, literature reviews and essays. These three categories of assessments were examined more closely with regard to students ability to predict the actual marks received, see Table 30.

Table 30 **Correlation between students' and experts' marks in different types of assessments used in university A**

Grouping	Type of assessment	Correlation	Significance
Whole group	All assessments	0.3158	n.s.
Group 1	unseen tests or examinations including Neuroanatomy test and OSCE	0.1760	n.s.
Group 2	seen or part-seen examinations including end of year examinations	0.2682	n.s.
Group 3	completely seen assignments including case studies, literature reviews, essays	0.3752	n.s.

There would appear to be a slight increase in the probability of students being able to predict the actual mark received when they have control over the assessment topic, either by seeing part of the examination or having time to investigate the assignment.

In comparing students' ability to self rate academic work in relationship to their age it was established that the older the student, the higher the correlation between predicted and actual marks received as can be seen in Table 31 as can be seen with the cohorts from University A. The reverse, however, is indicated at university B.

Table 31 Students ability to self-rate according to age

Age group	University A cohort 1992	University B cohort 1992	University A cohort 1993
18 - 20	0.0531	0.3745	0.2241
21 - 25	0.3009	0.3435	0.2921
26 - 30	0.2995	0.3171	0.3690
31 - 35	0.1149	0.3912	0.1298
36 - 40	0.3152	0.2253	0.3120
40 - 50	0.4632	0:0409	0.5916

The trend shown in university A with both cohorts is that student do show some increase in their ability to predict their mark over the three years, though this is not consistent.

Differences between the experts' marks and students' predicted marks

The difference between the experts marks (mean) and the students' predicted marks (mean) are presented in Figure 6,7 and 8.

Figure 6 **Students predicted marks and actual marks received - cohort 1992 university A** *(Pass mark for assessments = 50%)*

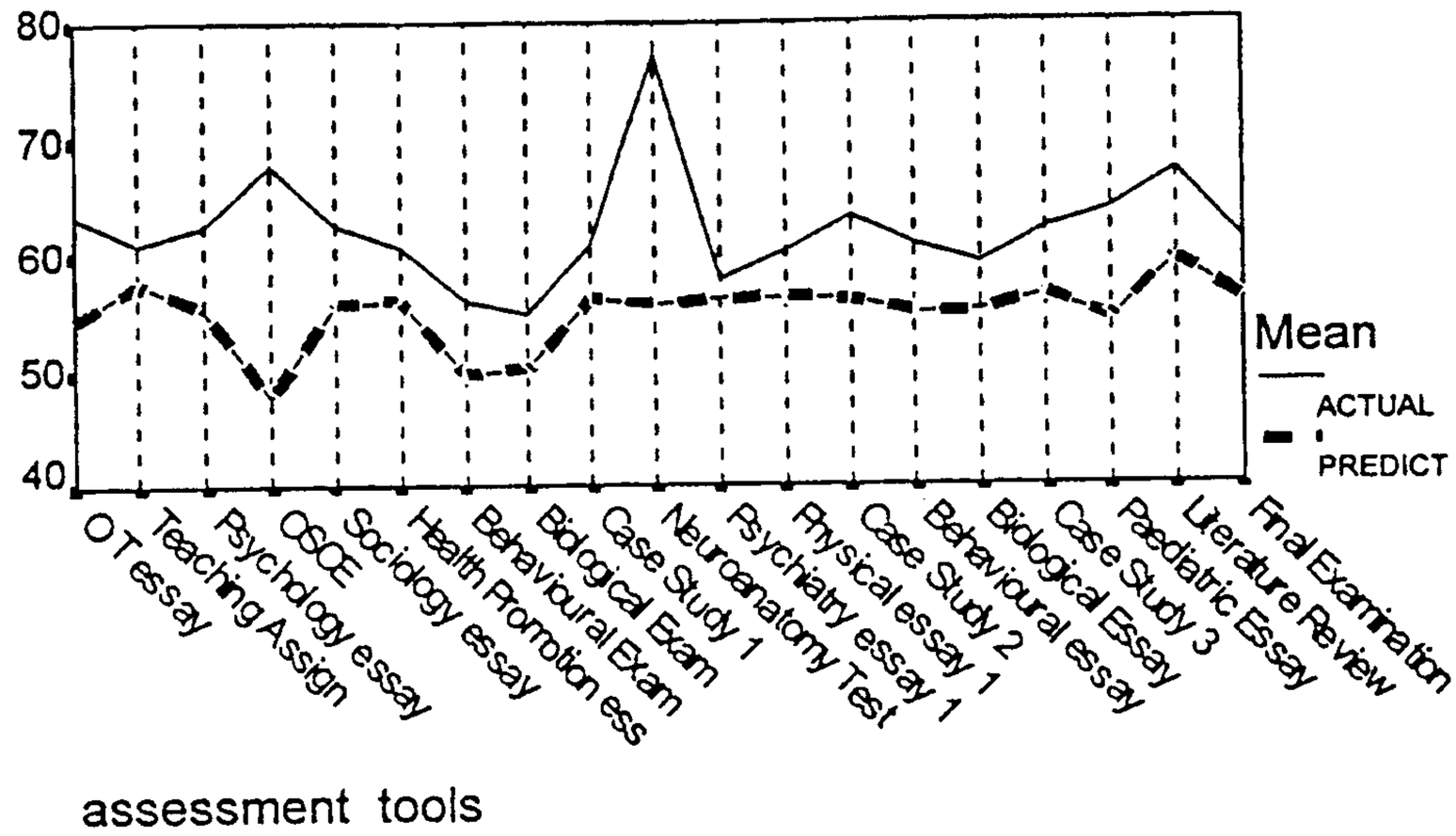


Figure 7 **Students predicted marks and actual marks received - cohort 1992 university B** *(Pass mark for assessments = 40%)*

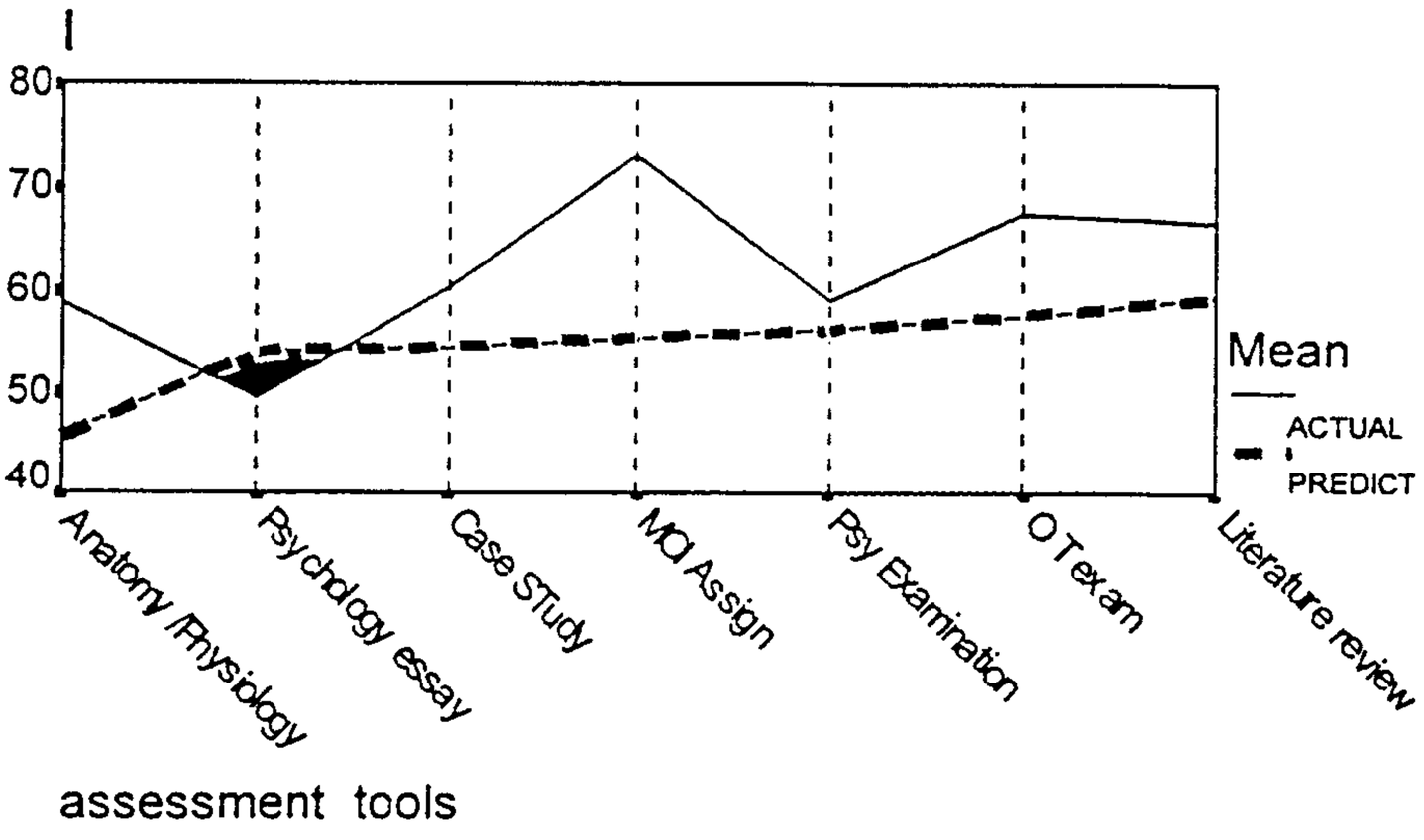
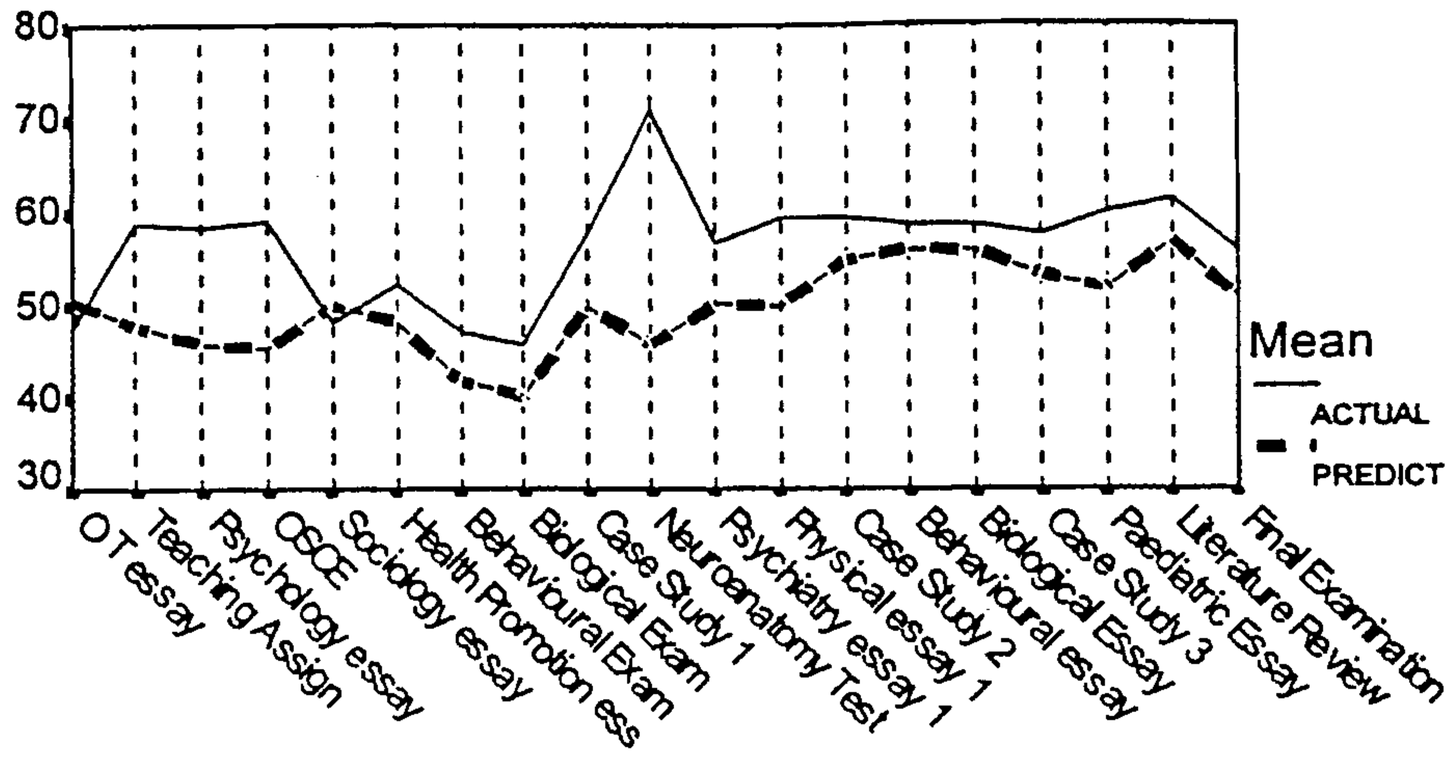


Figure 8 **Students predicted marks and actual marks received - cohort 1993 university A** *(Pass mark for assessments = 40%)*



In examining the differences between the students' predicted marks and the experts' marks the difference between the two sets of marks appear to be getting smaller over the period of time, as can be seen in Figures 9, 10 and 11 where the mean difference appears to get less towards the end of the three years.

Figure 9 **Difference between predicted and actual marks received - cohort 1992 university A** *(Pass mark for assessments = 50%)*

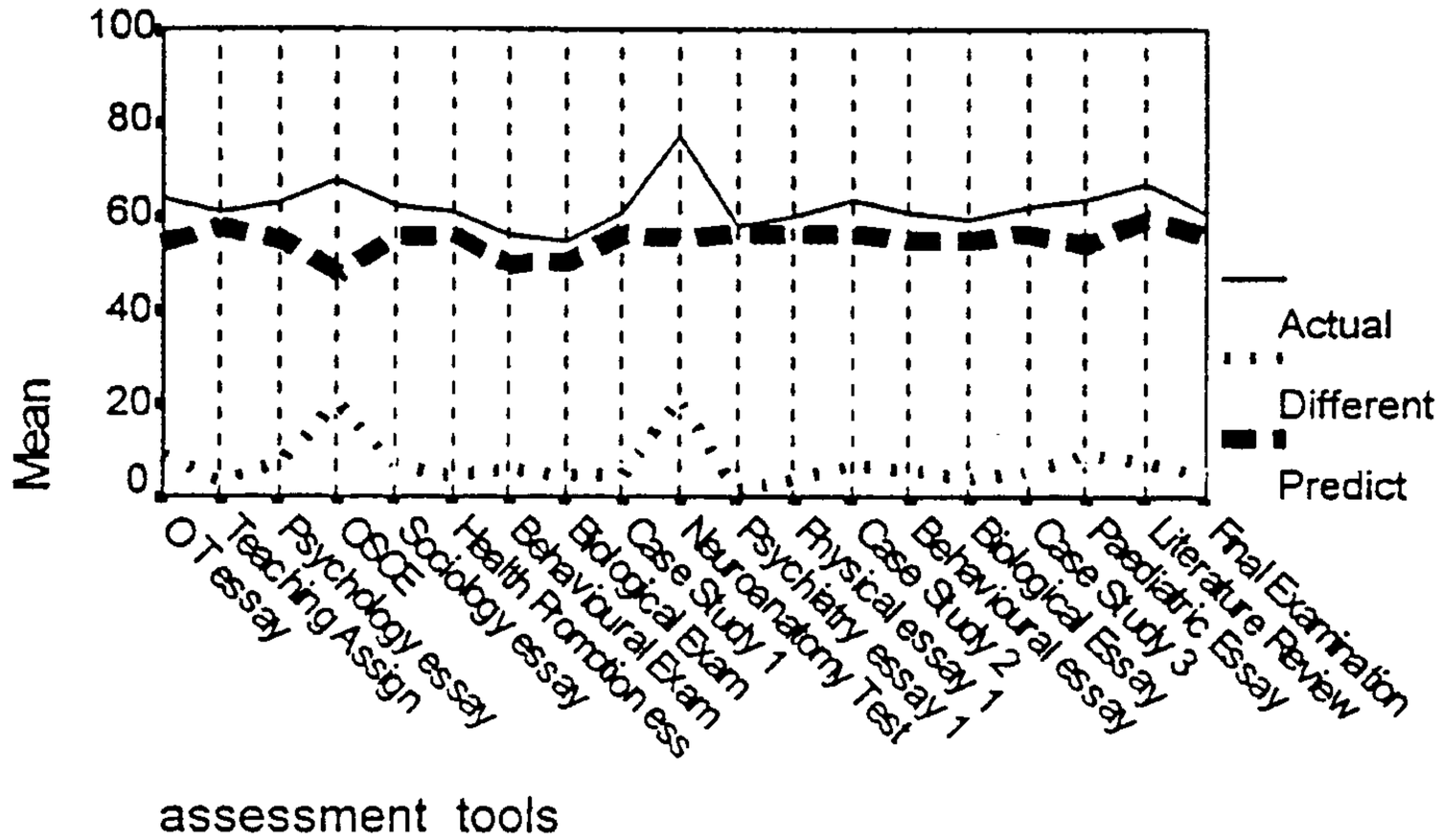


Figure 10 **Difference between predicted and actual marks received - cohort 1992 university B** *(Pass mark for assessments = 40%)*

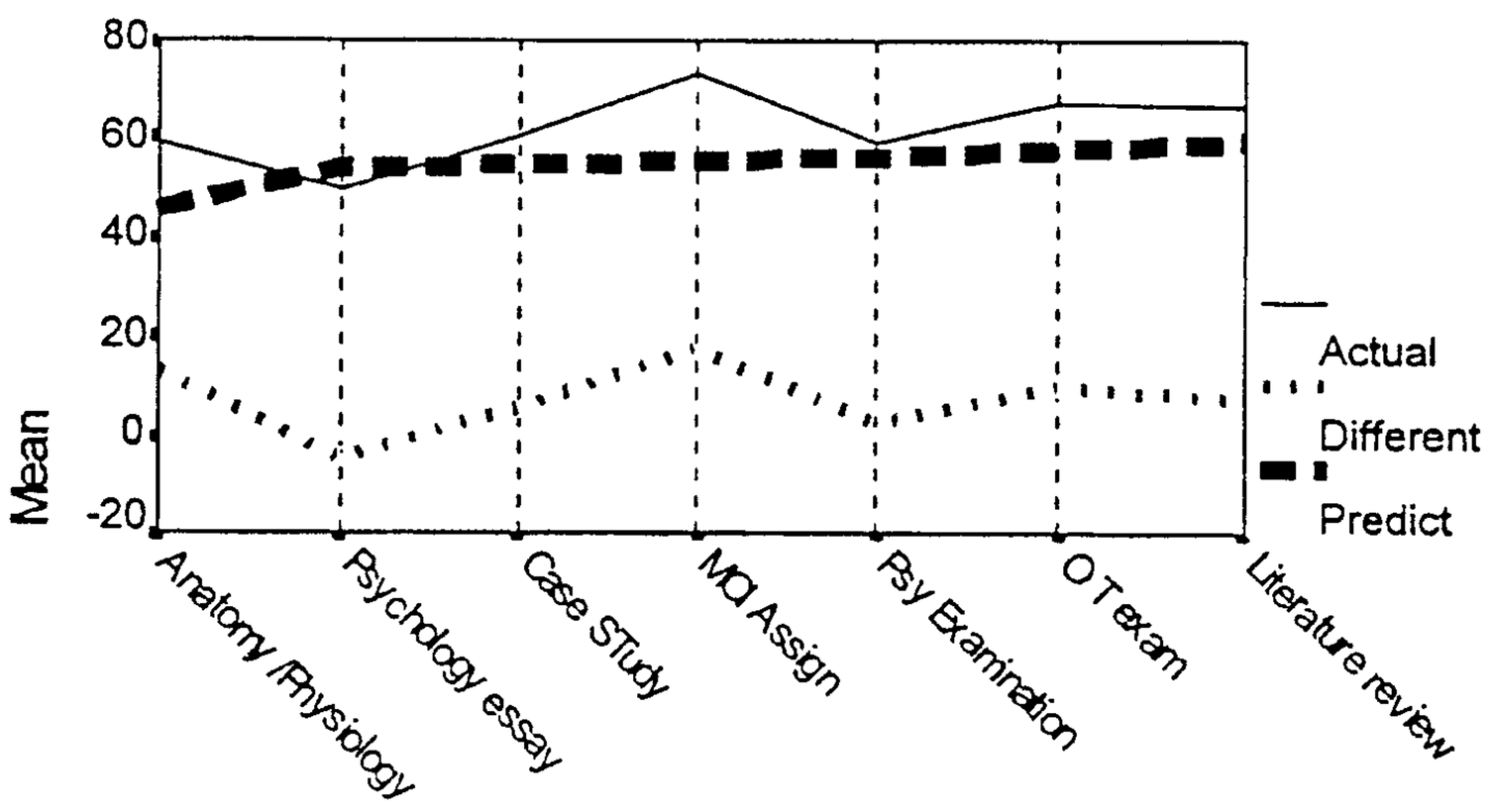
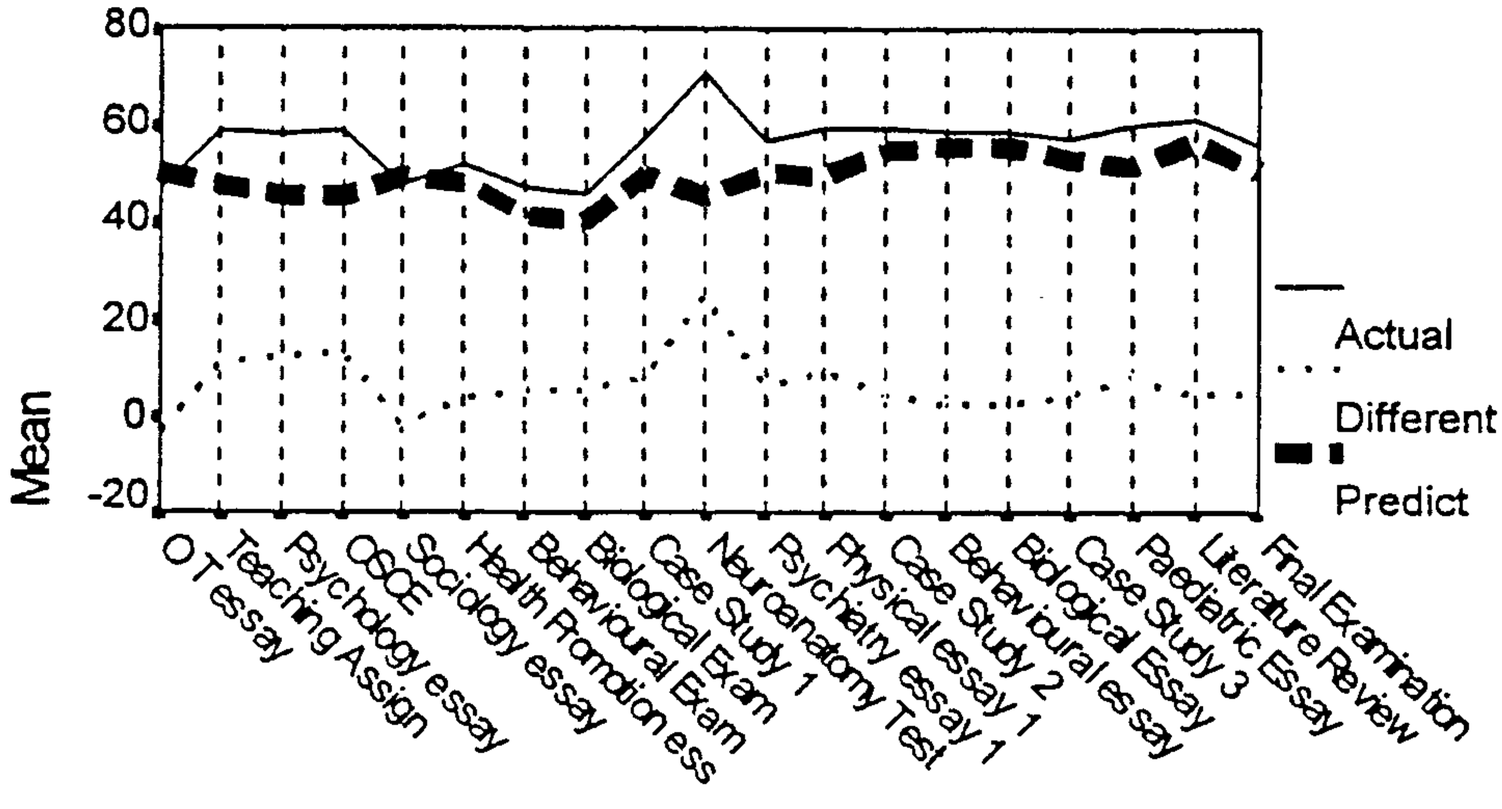


Figure 11 **Difference between predicted and actual marks received - cohort 1993 university A** *(Pass mark for assessments = 40%)*



A comparison between students' 'actual marks' with the 'highest mark expected' shows that students were more confident in this as can been seen in Figures 12, 13 and 14 with the two sets of marks being closer together.

Figure 12 **Students 'actual marks' and 'highest expected marks' - cohort 1992 University A** *(pass mark for assessments = 50%)*

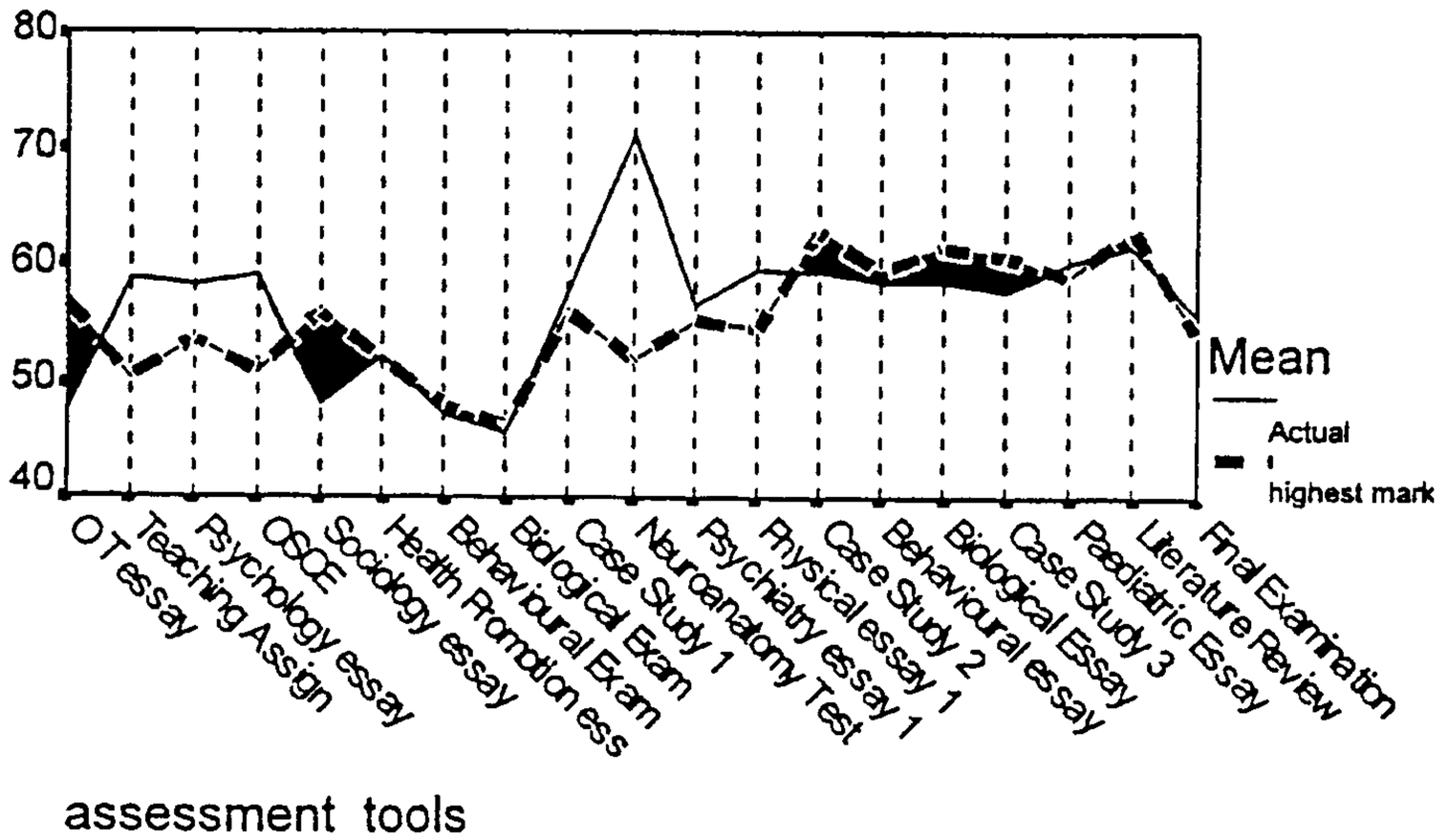


Figure 13 **Students 'actual marks' and 'highest expected marks' - cohort 1992 University B** *(pass mark for assessments = 40%)*

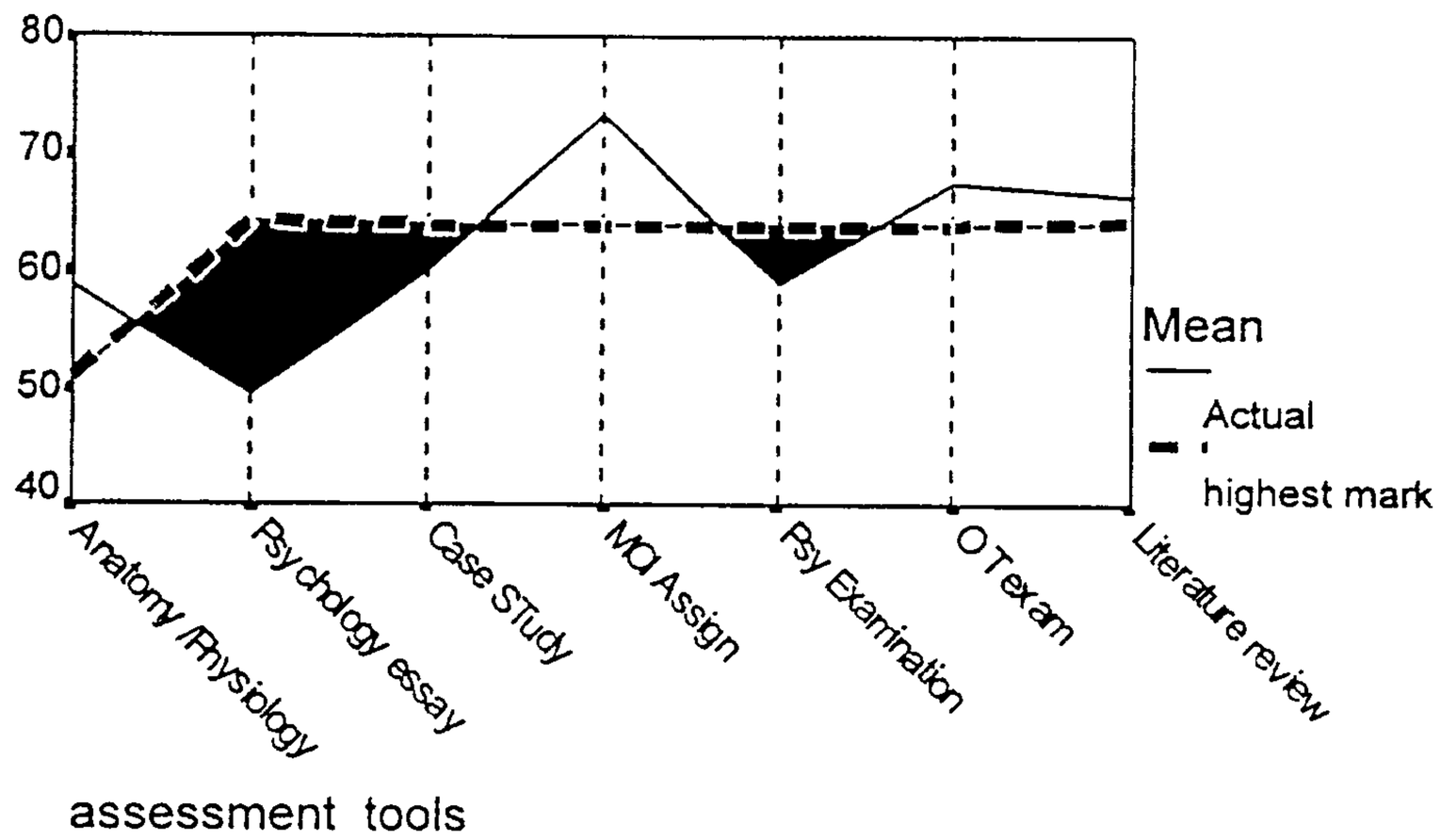
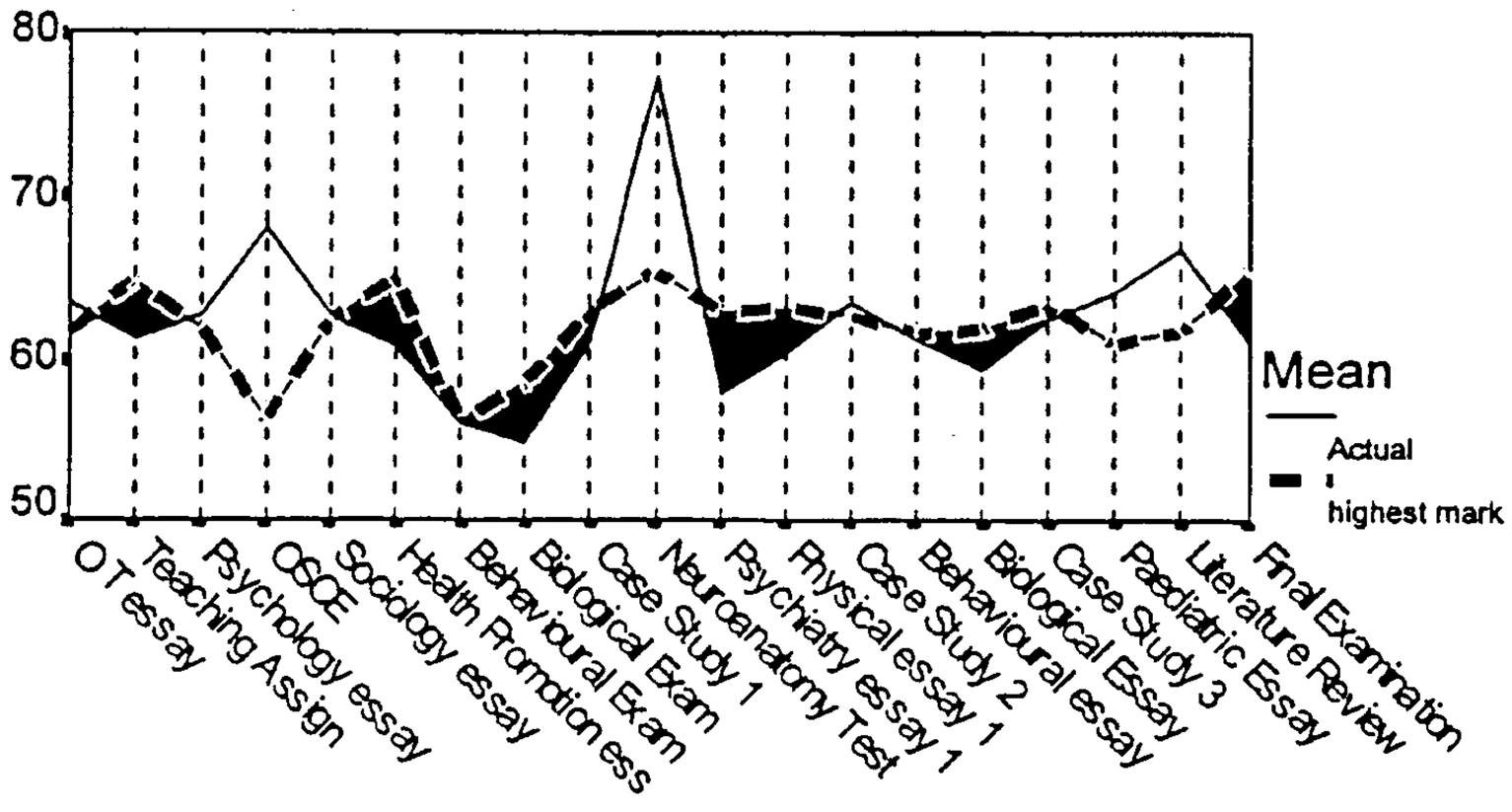


Figure 14 **Students 'actual marks' and 'highest expected marks' - cohort 1993 University A** *(pass mark for assessments = 40%)*



The correlations between the two sets of marks are not significant, with Cohort 1992 University A having a correlation of 0.2002, cohort 1992 University B having a correlation of 0.3251 and cohort 1993 University A having a correlation of 0.1933.

Reasons for self-rating marks

Sixty-three percent of students identified reasons for their predicted mark from the pre-determined list. The reasons for students' decisions for the self-rating marks are presented in Table 32, and it can be seen that the majority of students were

self-rating on the premises of 'not being pleased with the piece of work'. Many students self rated on the basis of marks given for previous work even though the types of assessments might be different. Students were also self rating as they considered the present piece of work 'improved from last assignment'.

Table 32 Students' reasons for predicting mark

Reason for predicted mark	Number	%
not pleased with assignment	310	18
based on previous marks	224	13
improved from last assignment	219	12
too much effort put into assignment	178	10
disliked topic	128	7.5
liked topic	126	7
right amount of effort put into assignment	115	6.5
good piece of work	115	6.5
not as good as previous assignment	105	6
too little effort put into assignment	87	5
no other marks with which to compare	28	2
expectations of others	22	1
based on school marks	11	0.5
stress, anxiety, nerves	*47**	*3*
home circumstances	*6**	*0.3*
Possible responses	**2732**	
Total number of responses	**1721**	

* Not included in original predetermined factors

The category 'stress, anxiety, nerves' was not included in the pre-determined list on the self-rating form but as a number of students identified this category in relation to unseen test and part-seen examinations it has been included in the table.

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7.5 Analysis of repertory grid interviews

Thirty repertory grid interviews were conducted (fifteen graduates and fifteen workplace supervisors). There are two basic approaches to analysing repertory grid data; one is to examine the *content* of the elicited constructs. The other approach is to examine the *structure* of the matrix produced from their rating procedure (Bannister & Mair 1968). Both types of analysis were used initially in this study, together with the FOCUS computer programme (Jankowicz & Thomas 1982).

A large number of constructs were produced from the interviews. The students identified 247 constructs in total representing 131 different constructs. The supervisors identified 265 constructs, with 129 common constructs. Table 33 shows the frequency with which the most constructs were identified.

Table 33 Frequency of common constructs identified

Graduates		Supervisors	
Construct	**Frequency**	**Construct**	**Frequency**
Organisational skills	10	Organised	11
Open	9	Open	6
Professional	9	Professional	7
Confident	8	Confidence	11
Approachable	5	Approachable	6
Experience	5	Experience	10
Flexible	5	Flexible	6
Time management	5	Time management	3
Assertive	4	Assertive	10
Efficient	4	Efficient	1
Initiative	4	Initiative	4
Knowledge OT	4	Knowledge	8
Listener	4	Listener	2
Mature	4	Mature	1
Reliable	4	Reliable	4
Responsible	4	Responsibility	4
Communication skills	3	Communicator	6
Empathetic	3	Empathetic	3
Holistic approach	3	Holistic approach	3
Independent	3	Independent	3
Rapport	3	Rapport	8
Reflective	3	Reflective	3
Developing/learning	2	Developing/learning	6
Positive approach	2	Positive approach	3
Realistic	2	Realistic	4
Supportive	2	Supportive	3

The constructs in Table 33 were most commonly named by both graduates and supervisor. Additional constructs identified by the graduates and generally not by supervisors are shown in Table 34. Those identified by the supervisors and not the graduates are shown in Table 35.

Table 34 Other constructs identified more than once by graduates

Construct	Frequency
Academic	3
Accepting	3
Calm	3
Competent	3
Dynamic	3
High standards	3
Interpersonal skills	3
Team member	3
Caring	2
Conscientious	2
Decision-maker	2
Distant	2
Energetic	2
Gentle approach	2
Hard-worker	2
Ideas person	2
Insightful	2
Promoting OT	2
Sense of humour	2
Thorough	2
Warm	2
Wider issues	2
Sensitive	2

Other constructs identified by students included: 'on the go'; 'down to earth'; able to cut off; act on criticism; adaptable; good admin. skills; appropriate; assurance; assured; attendance; business-like; busy; client centred; comfortable; command respect; committed; compliant; confrontational; consider consequences; constructive; co-operative; copes with pressure; taking criticism; decisive; detached from clients; determined; diplomatic; doer; doesn't personalise; easy going; effect change; encouraging; enjoys work; explained; focused; freedom; friendly; genuine; group member; happy; high expectations; industrious; laid-back; methodical; motivated; negotiating; not interfering; pacing work; patient orientated; stable personally; planner; presentation skills good; receptive; relates

well with others; relaxed; self-development; self-evaluation; selfless; serious; skilled; stable; strong in role; strong staff relations; studious; needs supervision; sure on OT role; sure of skills; tackle head on; teacher; good theory; forward thinker; trustworthy; undervalued; willing to discuss; wish to learn; worker; zest for life.

Table 35 Other constructs identified more than once by supervisors

Construct	Frequency
Enthusiastic	4
Caring	3
Collaborate	3
Effective	3
Thinks through situation	3
Accepting instruction	2
Busy	2
Competent	2
In control	2
Critical	2
Decision making	2
Dynamic	2
Experience- life	2
Forthright	2
Integrates	2
Leadership	2
Learning	2
Methodical	2
Multi-role	2
Prioritising	2
Proactive OT	2
Qualified	2
Seeks help/ direction	2
Structured	2
Supervision needed	2
Thorough	2
Up to date with OT	2
Sense of humour	2

Other constructs identified by supervisors included: 'on the go'; academic; adaptable; assurance; authority; available; aware of limitations; aware of OT role; bossy; calm; comfortable; committed; conscientious; on control; dealing with a variety of people; dedicated; dependent; diplomatic; direct; eager to improve; energetic; formal; friendly/open; further OT; gentle approach; gives supervision; happy; high expectations; high standards; idealistic; in control; involve other staff; knowing the answer; laid-back; likes routine; likes structure; lively; takes long-term view; maximum effort; motivation; needing supervision; networking; one-one; optimist; outward looking; knows own strengths; people orientated; reassurance needed; receptive; good relationships with staff; relaxed; respected; risk-taker; satisfied; secure; self-assurance; self-reliance; sensitive; sharing with others; skilled; sociable; specialising; staff relationships good; strong in role; superiority; supervisions given; supervisor; team member; therapeutic; wants to do good job; warm; good working relationships; good written work.

Categorisation of constructs

Although there were several recurring themes within the constructs e.g. enthusiastic - no enthusiasm; self confident - lacks self confidence, will use initiative - not inclined to use initiative, the words used were not consistent enough to be counted. Content analysis of groups of constructs was initially difficult, as a satisfactory classification did not emerge when the data was scrutinised. However, a method of classification proposed by Stewart and Stewart (1981) was adopted to good use. The constructs supplied by each interviewee were written onto small cards. The cards were then pooled and the researcher sorted through the cards searching for patterns of commonality.

The constructs named proved sufficiently consistent to be classified. In the classification, constructs were assigned to one of four categories:

i. work values;

ii. relationship qualities;

iii. psychological characteristics;

and

iv. occupational therapy characteristics.

A work value construct describes approaches work, for example good organisational skills - poor organisational skills, thorough - not thorough, methodical - not methodical. Relationship qualities described interactions with others, for example open and friendly - shy, informal - formal, warm and caring - cool and reserved, empathetic - emotionally reserved. Psychological characteristics describes observable characteristics of the elements for example works hard - lazy, enthusiastic - no enthusiasm, mature - immature, sense of humour - no sense of humour, motivate - not motivated. The fourth category, occupational therapy characteristics, portrays constructs related to professionalism, for example less experience - more experience, assertive - non-assertive, less knowledge - more knowledge, promotes change - resists change.

The four main categories were subdivided as can be seen in Table 36.

Table 36 Categories of graduates' characteristics

Characteristics	General Qualities	Specific Qualities identified
Occupational therapist(s) characteristics	Professional qualities *constructs used to attribute qualities associated with professional aspects of occupational therapy*	professional, good knowledge, developing, skilled, experience, reflective, promoting occupational therapy
	Leadership *constructs concerned with qualities associated with ability to lead a team*	decisive, explainer, confident, leadership skills, available, forthright.
Relationship qualities	Caring/empathy *constructs to do with concern for others*	empathetic, supportive, listening, sharing, calm, positive regard.
	Sociability *constructs concerned with how people relate to each other*	willing to discuss, approachable, distant, open, good relationships with other staff, relates well.
	Approach to work relationships *constructs concerned with how the therapist relates to clients and colleagues in the work place*	supportive, easy-going, confrontational
Psychological characteristics	Motivation *constructs which focus on enthusiasm for work*	enthusiastic, busy, energetic, dynamic, ideas person, zest for life.
	Personality attributes *constructs used to attribute certain personal qualities to individuals*	flexible, mature, aware of own strengths, genuine, reliable.
Work values	Orientation: practical vs. administration *constructs associated with the therapist's actual or preferred orientation to work*	structured, people orientated, administrator.
	Team approach *constructs associated with ability to work as part of a team*	team member, command respect, relates well to others, sharing with others, good staff relationships.
	Approach to work *constructs associated with how the therapist tackles the workload*	organised, effective, thinking through situation, thorough, committed.

Reliability checks were undertaken on two accounts. In the first instance the reliability of the category labels were checked by asking colleagues employed in clinical workplace, (not one of interviewees) to sort the cards and establish the concurrence with the finding of the five categories. Secondly, other colleagues employed in educational establishment were asked to sort a small sample of the cards into the labelled categories, to check for the reliability of the assignment of constructs into the labelled categories.

As noted earlier, constructs are the bipolar distinctions between triads of elements. As constructs should be described, as far as possible, in the respondents' own words, analysis is difficult. In this series of 30 interviews, 507 constructs were produced with a range of 9 - 24 creating a mean of 17.27. The student group produced 260 constructs with a range of 9 - 24 creating a mean of 16.33; this represents 131 different constructs. The supervisors identified 247 constructs, 129 different constructs with a range of 12 - 23 (mean of 18.2) see Table 37. The variation in number of constructs elicited was surprising. Some respondents appeared to have difficulty in producing constructs, tending to create ones that were concrete rather than abstract. Other interviewees responded well to the challenge of the grid and were able to think of constructs with ease.

It is interesting to note from Table 37 that although graduates and supervisors were interviewed independently a similar number of constructs were elicited from each pair, the exception being graduate 4 and supervisor 4 where the supervisor gave twice as many constructs as the graduate.

Table 37 Categorisation of identified constructs

Constructs	Work		Relationship		Psychological		Occ.Therapy		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Grad.1	2	*(9)*	5	*(24)*	3	*(14)*	11	*(52)*	21	100)
Super. 1	*4*	*(17)*	*4*	*(17)*	*6*	*(26)*	*9*	*(52)*	*23*	*(100)*
Grad. 2	4	(18)	6	(27)	4	(18)	8	(36)	22	(100)
Super. 2	*10*	*(48)*	*4*	*(19)*	*1*	*(5)*	*6*	*(29)*	*21*	*(100)*
Grad. 3	4	(24)	4	(24)	7	(51)	2	(12)	17	(100)
Super. 3	*5*	*(28)*	*4*	*(22)*	*3*	*(17)*	*6*	*(33)*	*18*	*(100)*
Grad. 4	2	(22)	2	(22)	1	(11)	4	(44)	9	(100)
Super. 4	*3*	*(18)*	*4*	*(24)*	*3*	*(18)*	*7*	*(41)*	*17*	*(100)*
Grad. 5	-	-	2	(15)	3	(23)	8	(62)	13	(100)
Super. 5	*5*	*(36)*	*4*	*(29)*	*2*	*(14)*	*3*	*(21)*	*14*	*(100)*
Grad. 6	2	(14)	5	(36)	3	(21)	4	(29)	14	(100)
Super. 6	*3*	*(19)*	*4*	*(25)*	*4*	*(25)*	*5*	*(31)*	*16*	*(100)*
Grad. 7	3	(19)	5	(31)	5	(31)	3	(19)	16	(100)
Super. 7	*5*	*(36)*	*4*	*(29)*	*1*	*(1)*	*4*	*(29)*	*14*	*(100)*
Grad. 8	4	(20)	6	(30)	7	(35)	3	(15)	20	(100)
Super. 8	*9*	*(43)*	*1*	*(.5)*	*5*	*(24)*	*3*	*(14)*	*21*	*(100)*
Grad. 9	5	(21)	5	(21)	5	(21)	9	(38)	24	(100)
Super. 9	*7*	*(37)*	*4*	*(21)*	*5*	*(26)*	*3*	*(16)*	*19*	*(100)*
Grad. 10	1	(8)	3	(23)	4	(31)	5	(38)	13	(100)
Super. 10	*2*	*(20)*	*2*	*(20)*	*3*	*(30)*	*3*	*(30)*	*10*	*(100)*
Grad. 11	1	(5)	4	(21)	8	(42)	6	(32)	19	(100)
Super. 11	*5*	*(25)*	*5*	*(25)*	*4*	*(20)*	*6*	*(30)*	*20*	*(100)*
Grad. 12	5	(28)	3	(17)	7	(39)	3	(17)	18	(100)
Super. 12	*5*	*(42)*	*3*	*(25)*	*1*	*(8)*	*3*	*(25)*	*12*	*(100)*
Grad. 13	4	(19)	4	(19)	8	(28)	6	(24)	21	(100)
Super.13	*5*	*(31)*	*5*	*(31)*	*4*	*(25)*	*2*	*(13)*	*16*	*(100)*
Grad. 14	3	(18)	3	(18)	3	(18)	8	(47)	17	(100)
Super. 14	*3*	*(30)*	*4*	*(27)*	*3*	*(20)*	*5*	*(33)*	*15*	*(100)*
Grad. 15	2	(12)	2	(12)	3	(19)	9	(56)	16	(100)
Super. 15	*3*	*(21)*	*2*	*(14)*	*6*	*(43)*	*3*	*(21)*	*14*	*(100)*
Total (Grads.)	**42**	**(16)**	**59**	**(23)**	**71**	**(27)**	**89**	**(34)**	**260**	**(100)**
Total (Super.)	*74*	*(30)*	*54*	*(22)*	*51*	*(21)*	*68*	*(28)*	*247*	*(100)*

Although it is difficult to draw any firm conclusions from the pairs of interviews, overall the graduates identified more constructs in regard to psychological aspects and occupational therapy whilst the supervisors identified more constructs relating to work and relationships as can be seen in Table 38.

Table 38 Comparison of classification of constructs

Constructs	Graduates	Supervisors	Total
Work	42 (16%)	74 (30%)	116
Relationships	59 (23%)	54 (22%)	113
Psychological	71 (27%)	51 (21%)	122
Occupational therapy	89 (34%)	68 (28%)	157
Total	261 (100%)	247 (100%)	508 (100%)

General correlation within the Grids

Having examined the constructs generally, each of the 15 pairs of grids will now be discussed sequentially. This analysis was effected using an algorithm for the cluster analysis of repertory grids called FOCUS (Jankowicz & Thomas 1982). The complete analysis of each grid involved listing the elements and the constructs, examining the interrelationships within the grid and finally displaying the completed grid. Analysis will be restricted to the more descriptive aspects. It

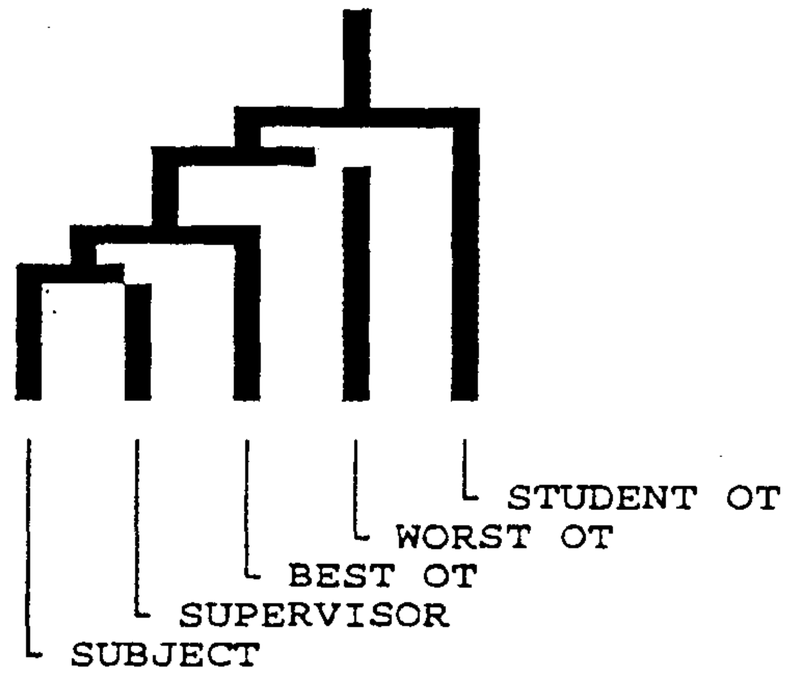
should be noted that 'subject' within the grid equates to 'graduate'. This was to prevent confusion within the grid between the recently qualified therapist and 'student occupational therapist'.

Due to the nature of repertory grid interviews, each of the girds produced is individual to the interviewee. It would therefore be very complex to make detailed comparisons between each grid. For this reason, the pattern of the correlations produced by the graduates were used as the common output, although it should be pointed out that the actual levels of correlation within these patterns may differ.

The fifteen graduates' grids produced six different patterns of correlation groups, of these four were common to more than two graduates and / or supervisors.

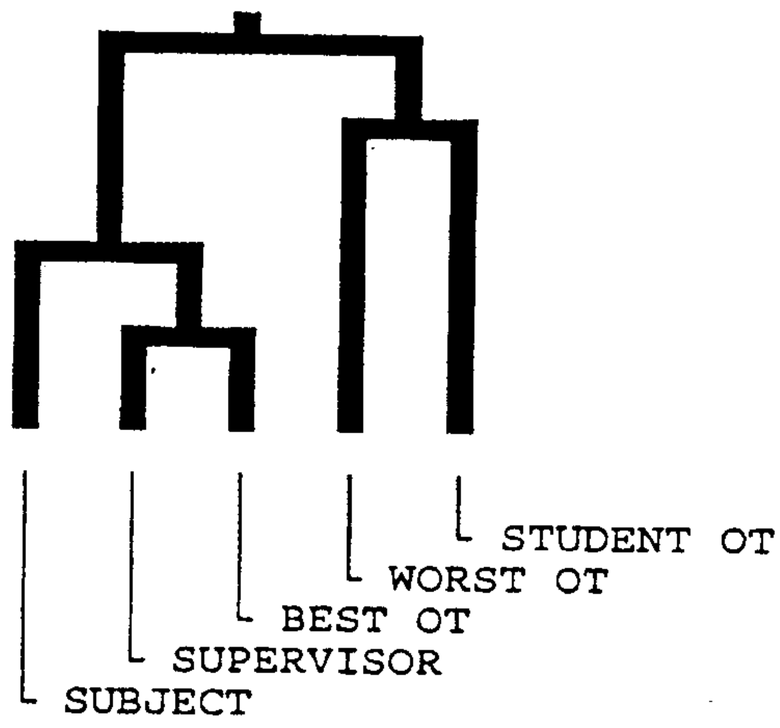
The first pattern linking 'subject' with 'supervisor', linked to 'best occupational therapist', linked to 'worst occupational therapist' and finally linked to 'student occupational therapist' as can be seen in the Figure 15. This pattern was produced by graduates numbered 3, 4,1 3, and 14. However, only one supervisor (number 7) produced this pattern.

Figure 15 Grid correlation pattern one



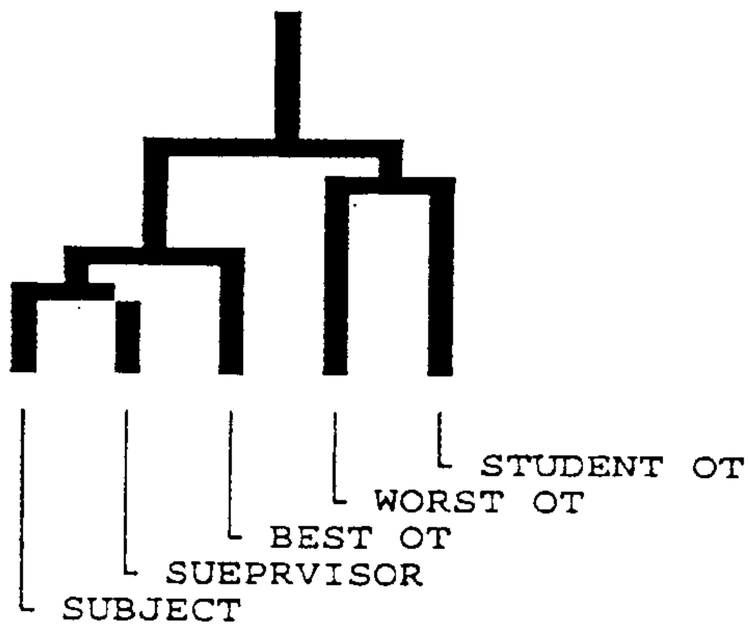
The second pattern produced linked the 'supervisor' with the 'best occupational therapist', linked with 'subject'; the 'worst occupational therapist' and the 'student occupational therapist' were linked with the final link being between the two original linking. Graduates 2, 6, 12 and 15 produced this pattern. This was the most common pattern amongst supervisors being produced by six supervisors numbers 1, 2, 3, 6, 8, and 12.

Figure 16 **Grid correlation pattern two**



The third pattern produced links between 'subject' and 'supervisor', between these two and the 'best occupational therapist', the 'worst occupational therapist' and the 'student occupational therapist' produced the third link with the final link joining the two groups. Graduates 1, 9 and 11 produced this pattern. Five supervisors also produced this pattern numbers 5, 9, 11, 13 and 14.

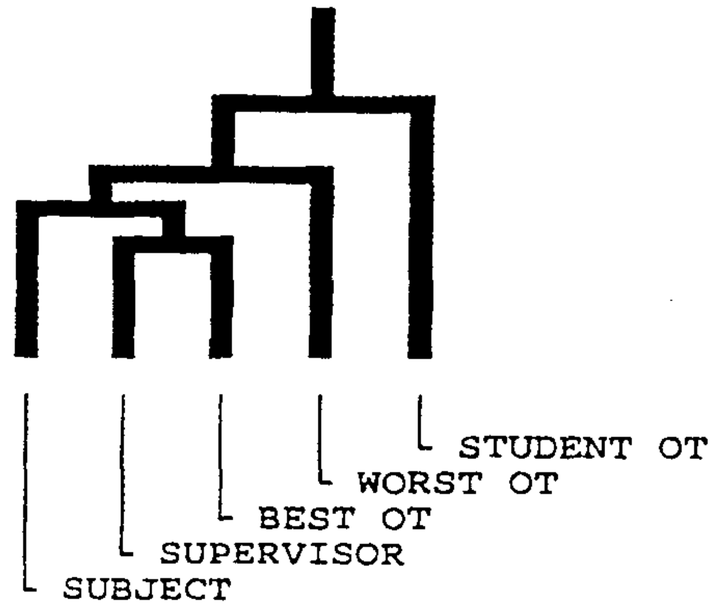
Figure 17 **Grid correlation pattern three**



The next pattern was produced by graduates 5 and 10 and also by supervisors 4 and 15. This pattern shows links between 'supervisor' and 'best occupational

therapist', linked to 'subject', linked to 'worst occupational therapist', linked to 'student occupational therapist'.

Figure 18 Grid correlation pattern four



Graduate 8 and graduate 7 produced completely individual grids, as did supervisor 7 and 10.

In the graphic display of the congruence between elements and between constructs in the grids, the percentages are shown to the nearest percentage.

Correlation within specific interviews

Interview 1

The graduate in this interview was supervised by a senior occupational therapist who was in a single-handed managerial position, having no direct occupational therapy sessions with clients. The supervisor had worked in this position for several years and had obvious supervisory / managerial skills. The graduate,

emphasised the value of people skills for all occupational therapists, the good supervision and leadership skills of her supervisor. In addition, the graduate also saw the experience, which the supervisor had in the work area, as a strength. The supervisor identified the graduate's skills as her ability to think beyond the immediate situation, her keenness within the work and also her striving towards self-development. Additional strengths were her maturity and her previous work experience.

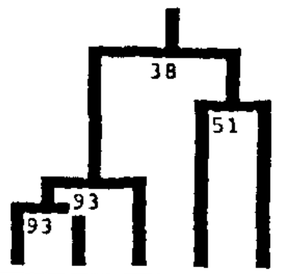
Correlation between elements

This was one of the largest grids with the graduate producing 21 constructs and the supervisor producing 23 constructs (see Grid 1). In examining the graduate's constructs using FOCUS, there is a correlation at 93% between the 'subject' element and the 'supervisor' element, and a 93% correlation between this first cluster and the 'best occupational therapist' element. A 53% correlation between 'worse occupational therapist and 'student occupational therapist formed the third cluster, the second and third clusters are linked at 38% correlation (see Grid 1).

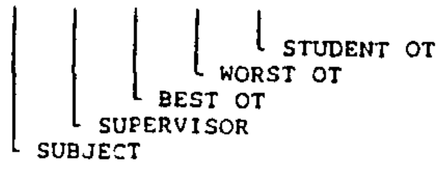
The supervisor's grid analysis produced a 89% correlation between 'supervisor' element and 'best occupational therapist' element; the second cluster was between the first cluster and the 'subject' element at 78% correlation. The third cluster showed a 41% correlation between 'worst occupational therapist' element and student 'occupational therapist' element. The fourth cluster linked the second and third clusters at 24% correlation.

Using the classification grouping of constructs, both the graduate and supervisor were identifying similar groupings of constructs in relation to the graduate with the following pattern:

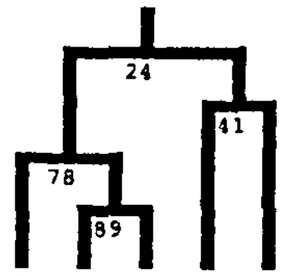
Constructs	Graduate 1	Supervisor 1
Work	2	4
Relationships	5	4
Psychological	3	6
Occupational therapy	11	9
Total	21	23



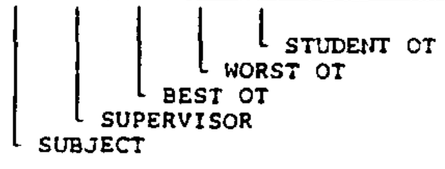
CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ORGANISED C1	4	4	4	1	3	C1 DISORGANISED
POSTIVE REGARD FOR CL C2	5	5	5	5	5	C2 NEGATIVE TOWARDS CLIENTS
KEEN TO SELEF C3	4	4	4	1	3	C3 NO SELF DEVELOP
GOOD COMMUNICATOR C4	5	4	5	3	5	C4 POOR COMMUNICATOR
ENTHUSIASTIC C5	5	5	5	1	5	C5 LACKING ENTHUSIASM
'ZEST FOR LIFE' C6	5	5	5	2	5	C6 BURNT-OUT
GOOD LISTENER C7	4	4	4	1	4	C7 NOT A LSITENER
EXPERIENCED C8	4	4	4	5	3	C8 INEXPERIENCED
GOOD INTERPERSONAL SKILLS C9	5	4	5	2	4	C9 POOR INTERPERSONAL SKILLS
WILLING TO DISCUSS C10	5	5	5	1	5	C1 UNWILLING TO DISCUSS
WISH TO LEARN C11	5	5	5	1	5	C1 UNWILLING TO LEARN
HIGHLY MOTIVATED C12	5	4	5	1	4	C1 NOT MOTIVATED
ACCEPTS RESPONSIBILITY C13	4	4	4	1	4	C1 NO RESPONSIBILITY
COPES WTIH RPESSURE C14	4	4	4	1	3	C1 UNABLE TO COPE WITH PRESSU
GOOD ADMIN. SKILLS C15	5	4	5	1	3	C1 POOR ADMIN. SKILLS
AWARE OF WIDER ISSUES C16	4	4	4	3	3	C1 VERY FOCUSSED
PACING THE WORK C17	4	4	4	4	4	C1 TAKING ON TOO MUCH
KEEN FOR RESPONSBILITY C18	4	4	4	2	4	C1 DOESN'T WANT RESPONSBILITY
GOOD PRESENTATION SKILL C19	5	4	5	2	3	C1 POOR PRESENTATION SKILLS
FEELS UNDERVALUED C20	4	3	3	3	4	C2 FEELS VERY VALUABLE
GOOD TEAM MEMBER C21	4	4	5	2	3	C2 WEAK TEAM MEMBER
REALTES WELL TO OTHER STA C22	5	5	5	2	4	C2 DOESN'T RELATE TO OTHER ST
GOOD PROFESSIONAL SKILLS C23	4	4	4	3	3	C2 POOR PROFESSIONL SKILL



Graduate 1



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
OUTWARD LOOKING C1	4	4	5	1	4	C1 INSULAR
TEAM WORKER C2	4	5	5	2	4	C2 INDIVIDUAL WORKER
PEOPLE ORIENTATED C3	4	5	5	1	5	C3 TASK ORIENTATED
ENCOURAGE LEARNING C4	5	5	5	2	4	C4 DISCOURAGE LEARNING
SUPPORTIVE C5	4	5	5	2	4	C5 UNSUPPORTIVE
CONFIDENT - PROFESSIONAL C6	4	4	5	3	4	C6 LACKING CONFIDENCE
AWARE OF OWN STRENGTHS C7	3	4	5	2	3	C7 UNAWARE OF STRENGTHS
KNOWLEDGE LEVEL HIGH C8	2	4	5	4	4	C8 POOR KNOWLEDGE
EMPATHETIC C9	4	4	4	2	4	C9 UNFEELING
EXPERIENCED IN ROLE C10	2	4	5	4	4	C1 INEXPERIENCED IN ROLE
EXPERIENCED IN SITUATION C11	3	5	5	1	4	C1 NO EXPERIENCE
LISTENING C12	4	5	5	1	4	C1 DOES NOT LISTEN
SHARING WITH OTHERS C13	5	4	5	1	5	C1 ISOLATED
RAPPORT GOOD C14	3	4	5	1	4	C1 NO RAPPORT
GOOD SUPERVISOR C15	2	5	5	2	4	C1 SUPERVISOR WEAK
AVAILABLE C16	4	4	5	2	5	C1 NOT AVAILABLE
PROFESSIONAL C17	5	5	5	1	5	C1 UNPROFESSIONAL
DEVELOPMENT TO HELP CLIENTS C18	4	5	5	2	5	C1 DEVELOPMENT TO HELP SELF
ORGANISED C19	5	5	5	2	5	C1 DISORGANISED



Supervisor 1

Grid 1

5 – positive pole 1 = negative pole

Interview 2

This graduate had been a mature student who had worked as an occupational therapy assistant prior to going to university. The graduate in this interview had been working for five months within a large general hospital; the supervisor had worked for 13 years as an occupational therapist and was head of the service. The graduate emphasised the supervisor's length of service in the same hospital, the interrelationships that had developed over the years, familiarity with service and staff and the wider aspects of the role which the supervisor under took. The supervisor identified the graduate's lack of confidence in the role together with the need for ongoing training and supervision.

Correlation between elements

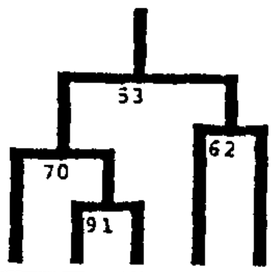
This was a large grid with the graduate producing 22 constructs and supervisor producing 21 constructs. In examining the graduates' constructs there is a correlation at 91% between the 'supervisor' and 'best occupational therapist', and a 70% correlation between this first cluster and the 'subject'. A 62% correlation between the 'student occupational therapist' and the 'worst occupational therapist', the final cluster with 53% correlation linked the second and third clusters constructs (see Grid 2).

The supervisor's grid analysis produced an 88% correlation between the 'supervisor' and the 'best occupational therapist'; the second cluster was between the first cluster and the 'subject' at 78% correlation. The third cluster with 75% was between the 'student occupational therapist' and the 'worst occupational

therapist'. The fourth cluster between the second and third clusters had a correlation of 56%.

Using the classification grouping of constructs, the supervisor identified more than twice the number of constructs under 'work' than the graduate did.

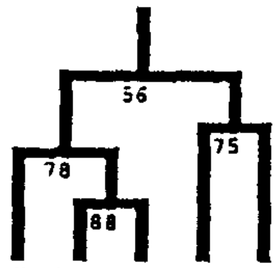
Constructs	Graduate 2	Supervisor 2
Work	4	10
Relationships	6	4
Psychological	4	1
Occupational therapy	8	6
Total	22	21



CONSTRUCT POLE RATED - 1	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED - 5
PROFESSIONAL C1	4	5	5	3	4	C1 UNPROFESSIONAL
APPROACHABLE C2	4	5	5	4	4	C2 UNAPPROACHABLE
APPROPRIATE LANGUAGE C3	4	5	5	3	5	C3 INAPPROPRIATE LANGUAGE
FLEXIBLE C4	4	3	5	2	4	C4 INFLEXIBLE
COMMANDS RESPECT C5	3	5	5	2	4	C5 NO COMMAND OF RESPECT
DECISIVE C6	3	5	5	2	4	C6 INDECISIVE
GOOD ORGANISATIONAL SKILLS C7	3	5	5	2	4	C7 NO ORGANISATIONAL SKILLS
GOOD LISTENER C8	4	4	4	3	4	C8 PREOCCUPIED
SUPPORTIVE C9	5	4	4	3	5	C9 UNSUPPORTIVE
EXPLAINER C10	2	4	5	3	4	C1 DIRECTOR
PROMOTING OT C11	4	5	5	3	4	C1 NOT ACTIVELY PROMOTING OT
DECISION MAKER C12	3	5	4	2	4	C1 'PUTS OFF'
DOER C13	3	4	5	2	4	C1 TALKER
FRIENDLY C14	5	4	5	4	5	C1 CLOSED
CONSCIENTIOUS C15	4	4	4	4	5	C1 UNCONSCIENTIOUS
DISTANT C16	3	4	4	2	4	C1 INVOLVED
CALM C17	4	4	4	2	4	C1 HARASSED
SOFTLY APPROACH C18	4	3	4	2	4	C1 CHARGE IN / DIRECT
GROUP MEMBER C19	4	4	4	3	5	C1 INDIVIDUAL WORKER
CONFIDENT C20	2	5	5	4	4	C2 LACKS CONFIDENCE
MATURE C21	3	5	5	2	4	C2 INEXPERIENCED
EMAPTHETIC C22	3	4	5	4	5	C2 UNFELLING

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Graduate 2



CONSTRUCT POLE RATED - 1	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED - 5
CONFIDENT C1	3	5	4	4	3	C1 NEEDS REASSURANCE
ORGANISED C2	4	4	5	2	4	C2 DISORGANISED
INTEGRATED WTIH COLLEAGUES C3	5	5	5	3	4	C3 'NOT FITTED IN'
SKILLED C4	4	5	4	3	3	C4 UNSKILLED
CONFIDENT C5	3	5	4	3	4	C5 NEEDS GUIDANCE
FLEXIBLE C6	4	5	5	3	4	C6 RIGID
EXPERIENCED C7	3	5	4	2	3	C7 INEXPERIENCED
LIKES STRUCTURE C8	4	4	4	2	4	C8 DISLIKES STRUCTURE
INTEGRATED C9	5	5	5	3	4	C9 DISTANT
ACCEPTED/VALUED C10	3	5	4	2	3	C1 STILL PROVING SELF
EFFECTIVE C11	4	4	4	2	3	C1 NOT EFFECTIVE
CONFIDENT DECISION MAKER C12	3	5	4	3	3	C1 LACKS CONFIDENCE
OPEN / RESPONSIVE C13	5	5	5	3	4	C1 CLOSED
AWARE OF OT ROLE C14	4	5	4	3	3	C1 UNAWARE OF OT ROLE
ADAPTABLE C15	3	5	4	2	3	C1 FIXED
REFLECTIVE THINKER C16	5	5	5	3	4	C1 DOES NOT THINK
SEEKING CRITICISM C17	5	5	5	3	4	C1 NOT REFLECTIVE
MUTLI-ROLED C18	3	5	4	4	4	C1 SINGLE ROLED
GOOD STAFF RELATIONS C19	5	5	5	2	3	C1 POOR RELATIONSHIPS
EAGER TO IMPROVE C20	5	5	5	3	5	C2 NOT RECOGNISE NEED TO CHAN
WELL ESTABLISHED RAPPORT C21	4	5	5	2	3	C2 HESITANT RAPPORT
THINKS THROUGH SITUATIONS C22	4	5	4	2	4	C2 'OPENS MOUTH' THEN THINKS

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Supervisor 2

Grid 2

5 = positive pole 1 = negative pole

Interview 3

This graduate had been a mature student who had worked as an occupational therapist prior to undertaking an HNC in Occupational Therapy Support and joining the second year of the BSc in Occupational Therapy course. The graduate had been in the present position, a new community development post for four and a half months at the time of the interview. The supervisor was in a senior post with a large clinical commitment and had worked as an occupational therapist for 5 and a half years.

The graduate identified the supervisor as a therapist who was very reflective in practice, who wanted to undertake further research but was very aware of the needs of the clients on a day-to-day basis. The supervisor was also a person who thought through the consequences of actions, but who could also be depended on to complete all work undertaken. The supervisor considered the graduate a very forthright individual who was not afraid to state concerns and thoughts. The fact that the graduate had worked prior to training the supervisor considered an advantage, as the graduate could work with less day-to-day supervision.

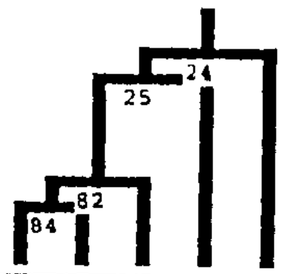
Correlation between elements

The graduate identified 17 constructs and the supervisor identified 18 constructs (see Grid 3). The graduate constructs showed a correlation of 84% between the 'subject' and 'supervisor', with an 82% correlation between this first cluster and the 'best occupational therapist'. The third cluster was between the second cluster and the 'worst occupational therapist' with a 25% correlation, and the last correlation of 24% was between the third cluster and the 'student occupational

therapist'. The supervisor's grid demonstrated a slightly different pattern of correlation to that of the student's but similar to that of other supervisors. The first cluster was between the 'supervisor' and the 'best occupational therapist' with 92% correlation, the second cluster between the first cluster and the 'subject' had a correlation of 87%. The third cluster was between the 'worst occupational therapist' and the 'student occupational therapist' with a 70% correlation, the final cluster linked the second and third clusters with a correlation of 68%.

The grouping of constructs, showed a difference in the weighting of constructs being identified, with the students identifying more 'psychological' constructs and the supervisor identifying more 'occupational therapy' constructs.

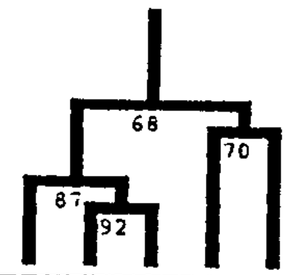
Constructs	**Graduate 3**	**Supervisor 3**
Work	4	5
Relationships	4	4
Psychological	7	3
Occupational therapy	2	6
Total	17	18



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ENTHUSIAST C1	5	5	5	1	5	C1 LACKING ENTHUSIASM
ORGANISED C2	3	5	2	5	4	C2 DISORGANISED
DYNAMIC C3	4	4	5	1	3	C3 METHODICAL
CONFRONTATIONAL C4	5	4	5	5	2	C4 RETIRING
CLIENT-CENTRED C5	5	5	5	1	5	C5 SELF-CENTRED
EASY GOING C6	2	5	4	1	5	C6 EASILY OFFENDED
IDEAS PERSON C7	5	5	5	1	3	C7 PRACTICAL PERSON
REFLECTIVE C8	3	5	4	1	3	C8 NON-REFLECTIVE
THOROUGH C9	4	5	3	5	3	C9 LAID-BACK
WORKER C10	5	5	5	1	5	C1 LAZY
COMMITTED C11	5	5	5	2	5	C1 NOT COMMITTED
GENUINE C12	5	5	4	1	5	C1 FALSE FRONT
STABLE C13	4	5	4	1	4	C1 CHANGEABLE
RELIABLE C14	4	5	4	1	5	C1 UNRELIABLE
CONSTRUCTIVE C15	5	5	5	1	3	C1 DESTRUCTIVE
MATURE C16	5	5	5	5	1	C1 BUBBLY
CARING C17	5	5	5	1	5	C1 UNCARING

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Graduate 3



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
SOCIABLE C1	5	5	5	2	4	C1 LOW INTERACTION
FORTHRIGHT C2	5	4	4	3	3	C2 NOT SAYING WHAT THEY THINK
APPROACHABLE C3	5	5	5	3	5	C3 NOT APPROACHABLE
UP TO DATE IN OT C4	5	5	5	5	4	C4 STATIC IN OT
SEEKINF SUPPORT C5	5	4	5	3	4	C5 JUST GETTING ON WITH THING
CALM APPROACH C6	5	5	5	3	5	C6 LIVELY
FURHTERING OT C7	5	4	5	5	3	C7 FINDING THEIR FEET
FORTHRIGHT C8	5	4	4	3	3	C8 UNCERTAINITY
THINK FIRST C9	5	5	5	3	4	C9 'FEET FIRST'
ONE-TO-ONE C10	3	3	3	5	3	C1 GROUPS
ORGANISED C11	5	5	5	5	4	C1 DISORGANSIED
FRIENDLY - OPEN C12	5	5	5	3	4	C1 CLOSED
THINKER C13	5	4	5	4	4	C1 GET ON WTIH JOB
CRITICAL C14	5	4	4	5	3	C1 ACCEPTING
MDT INVOLVED C15	5	5	5	4	5	C1 CLIENT & STAFF ORIENTATED
RELAIBLE C16	5	5	5	3	4	C1 UNTRUSTWORTHY
REFLECTIVE C17	5	4	5	5	4	C1 PRACTICAL
INVOVLED WITH STAFF C18	5	4	4	2	4	C1 INDIVIDUAL WORKER
FURTHER RESEARCH C19	5	3	5	5	4	C1 PRACTICAL ABOUT WORK LOAD

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Supervisor 3

Grid 3

5 -- positive pole 1 negative pole

Interview 4

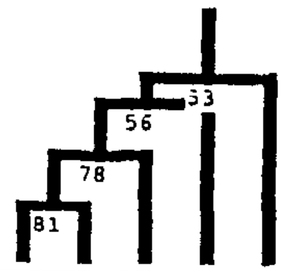
This interview took place within a large psychiatric hospital; the graduate had been in position for three months and the supervisor had been in this present position for four months although holding a senior post and having been qualified for five years. Neither the graduate nor supervisor had worked prior to undertaking occupational therapy training. The graduate stressed the supervisor's excellent clinical skills including communication skills and knowledge of occupational therapy; the supervisor identified the graduate's 'laid-back' approach to work whilst still being very effective and working well with clients.

Correlation between elements

This interview produced one of the smallest graduate's grids with only nine constructs being identified; the supervisor however identified 18 constructs (see Grid 4). In the student's grid there was a correlation of 81% between the 'subject' and the 'supervisor', the second cluster linked the first cluster with the 'best occupational therapist' with a correlation of 78%, the third cluster linked the second cluster with the 'worst occupational therapist' with 56% correlation and the final cluster linked this third cluster with the 'student occupational threats' at 53% correlation. The supervisor linked the 'supervisor' and the 'best occupational therapist' as a first cluster with 91% correlation; the second cluster with 90% correlation linked this first cluster with the 'subject'. The third cluster linked the 'worst occupational therapist' with the second cluster at 85% correlation. The final cluster linked the 'students occupational therapist' with the third cluster at 75% correlation.

The classification of constructs revealed that the supervisor identified more occupational therapy constructs than the graduate did.

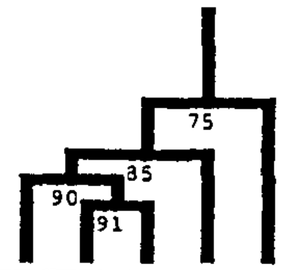
Constructs	**Graduate 4**	**Supervisor 4**
Work	2	3
Relationships	1	5
Psychological	2	3
Occupational therapy	4	7
Total	9	18



CONSTRUCT POLE RATED -		E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
RELIABLE	C1	5	5	5	5	5	C1 UNRELIABLE
SURE OF SKILLS	C2	3	4	5	2	3	C2 UNSURE OF SKILLS
CALM	C3	5	3	3	2	3	C3 IRRATIC
PATIENT ORIENTATED	C4	5	5	5	1	5	C4 TASK ORIENTATED
INDEPENDENT PROFESSIONALLY	C5	3	4	5	1	3	C5 DEPENDENT PROFESSIONALLY
REFLECTIVE	C6	4	5	2	1	3	C6 NON REFLECTIVE
SURE IN OT ROLE	C7	3	4	4	5	3	C7 UNSURE IN OT ROLE
FORWARD THINKER	C8	3	4	5	5	2	C8 CURRENT THINKER
OPEN/FRIENDLY	C9	5	5	3	1	3	C9 CLOSED

SUBJECT
SUPERVISOR
BEST OT
WORST OT
STUDENT OT

Graduate 4



CONSTRUCT POLE RATED -		E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
PROFESSIONAL	C1	5	5	5	5	5	C1 NOVICE/STUDENT
CONFIDENT	C2	4	5	5	5	4	C2 NOT CONFIDENT
RESPECTED	C3	4	5	5	5	3	C3 NOT RESPECTED
MATURE	C4	4	4	5	5	5	C4 IMMATURE
RELAXED	C5	5	5	5	4	3	C5 TENSE
STRUCTURED	C6	1	3	5	5	4	C6 LAID-BACK
GOOD RAPPORT	C7	5	5	5	2	4	C7 POORT RAPPORT
FLEXIBLE	C8	5	5	5	2	4	C8 RIGID
IN CONTROL	C9	5	5	5	5	5	C9 OUT OF CONTROL
WARM	C10	5	5	5	3	5	C1 DISTANT
THOROUGH	C11	4	5	5	5	4	C1 LAID-BACK
EXPERIENCED	C12	4	4	5	5	3	C1 INEXPERIENCED
ASSERTIVE	C13	4	4	5	5	4	C1 LACKING ASSURANCE
RELIABLE	C14	5	5	5	5	5	C1 UNRELIABLE
DIRECT	C15	4	4	5	5	4	C1 INDIRECT
GOOD LEADERSHIP SKILLS	C16	4	5	5	4	4	C1 WANTS TO BE LEAD
AUTHORITARIAN	C17	4	5	5	5	4	C1 WANTS TO BE LEAD

SUBJECT
SUPERVISOR
BEST OT
WORST OT
STUDENT OT

Supervisor 4

Grid 4

5 = positive pole 1 = negative pole

Interview 5

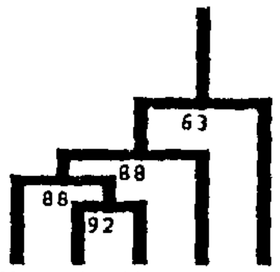
This interview took place within a large general hospital; the graduate had been in post 4 months and the supervisor 21 months. The supervisor was in a senior clinical post and had been qualified three years, having worked in the health service prior to occupational therapy training. The graduate had worked in a centre for physically disabled adults prior to going to university. The graduate stressed the supervisor's specialising within the clinical area and occupational therapy knowledge. The supervisor identified the graduate's enthusiasm both personally and professionally.

Correlation between elements

The graduate and supervisor identified similar numbers of constructs, the graduate identified 13 constructs and the supervisor 14 constructs (see Grid 5). In inspecting the graduate's grid, there is a correlation of 92% between the 'supervisor' and the 'best occupational therapist', a correlation of 88% between this first cluster and the 'subject', and between this second cluster and 'worst occupational therapist' there is a correlation of 88% and the fourth cluster between the third cluster and 'students occupational therapist' has a correlation of 63%. The supervisor's grid demonstrates a 73% correlation between the 'subject' and the 'supervisor'; the second cluster between the first cluster and the 'best occupational therapist' has a 73% correlation. The third cluster between the 'worst occupational therapist' and the 'student occupational therapist' has a correlation of 52%, a correlation of 32% links the second and third clusters together.

An analysis of groupings revealed that the graduate identified no 'work' constructs, whilst the supervisor identified 5 'work' constructs. This was the main difference between the two grids.

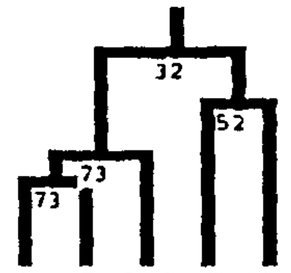
Constructs	**Graduate 5**	**Supervisor 5**
Work	0	5
Relationships	2	4
Psychological	3	2
Occupational therapy	8	3
Total	13	14



CONSTRUCT POLE RATED -		E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
QUALIFIED	C1	5	5	5	5	1	C1 NOT QUALIFIED
CONFIDENT	C2	4	4	5	5	3	C2 LACKING CONFIDENCE
THERAPEUTIC	C3	4	4	4	3	3	C3 NON THERAPEUTIC
GOOD RAPPORT	C4	5	5	5	3	4	C4 LACKING RAPPORT
CLOSE WORKING RELATIONSHIPS	C5	5	5	4	3	3	C5 DISTANT
CONFORTABLE	C6	5	4	4	4	4	C6 UNCOMFORTABLE
EXPERIENCED	C7	3	4	4	4	2	C7 LACKING EXPERIENCE
PROFESSIONAL	C8	4	4	4	3	4	C8 LACIKING PROFESSIONALISM
FLEXIBLE	C9	4	3	4	4	4	C9 RIGID
DEVELOPING	C10	4	5	5	4	5	C1 NOT DEVELOPING
ASSERTIVE	C11	4	4	5	5	3	C1 NOT ASSERTIVE
SPECIALISING	C12	3	5	5	5	3	C1 GENERALISING
QUALIFIED	C13	5	5	5	5	1	C1 STUDENT

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Graduate 5



CONSTRUCT POLE RATED -		E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ENTHUSIASTIC	C1	5	4	5	2	4	C1 LACKING ENTHUSIASM
CALM	C2	5	2	5	1	3	C2 'FRANTIC'
GOOD TIME MANAGEMENT	C3	3	5	4	2	4	C3 POOR TIME MANAGEMENT
EXPERIENCED	C4	4	4	5	2	4	C4 LACKING EXPERIENCE
GOOD ORGANSATIONAL SKILLS	C5	3	5	4	1	3	C5 WEAK ORGANISATIONAL SKILLS
ENERGETIC	C6	5	3	5	2	4	C6 LACKING ENERGY
HOLISTIC	C7	5	4	5	2	3	C7 FOCUSSED
GOOD LISTENER	C8	3	4	4	3	4	C8 POOR LISTENER
GOOD RAPPORT	C9	4	3	4	2	3	C9 POOR RAPPORT
GOOD ACADEMICALLY	C10	3	3	4	2	4	C1 POOR ACADEMCIALLY
WILLING TO ACT ON CRITICISM	C11	4	3	4	3	4	C1 UNWILLING TO ACT ON CRITIC
GOOD ATTENDANCE	C12	5	5	5	1	5	C1 POOR ATTANDANCE
GOOD KNOWLEDGE OT	C13	4	4	5	1	4	C1 POOR KNOWLEDGE OT
GOOD COMMUNICATOR	C14	5	4	5	2	4	C1 POOR COMMUNICATOR

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Supervisor 5

Grid 5

5 positive pole 1 -- negative pole

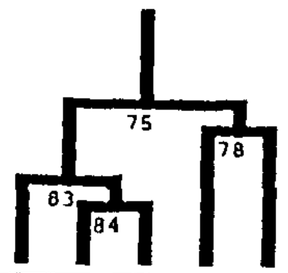
Interview 6

This interview was conducted within a community psychiatric day unit, the graduate was a mature student who had worked in a caring profession prior to starting training, and the supervisor had also worked prior to training, mainly in manual work. The graduate had been in post for six months prior to the interview and the supervisor; although qualified for four years seven months, had been in the present post for one year seven months. The graduate identified the supervisor's strengths as communication skill and people skills, whilst the supervisor identified the graduate's main strengths as mature outlook, general personal resources and ability to relate to people.

In this interview both the graduate and supervisor identified 16 constructs and both grids show identical correlation patterns (see Grid 6). The graduate had a correlation of 86% between the 'supervisor' and 'best occupational therapist', whilst the supervisor had a correlation of 84% between the same pair. The second cluster between the first cluster and 'subject' had a 77% correlation in the graduate's grid and an 83% correlation in the supervisor's grid. The third cluster in each grid was between the 'worst occupational therapist' and the 'students occupational therapist' showed a correlation of 31% in the graduate's grid and of 78% in the supervisor's grid. The final cluster linked the second and third clusters with 14% correlation in the graduate's grid and 75% correlation in the supervisor's grid.

The analysis of the groupings of constructs again demonstrated very similar patterns and distribution of constructs.

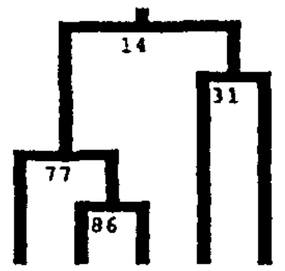
Constructs	Graduate 6	Supervisor 6
Work	2	3
Relationships	5	4
Psychological	3	4
Occupational therapy	4	5
Total	14	16



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ORGANISED C1	4	4	4	3	5	C1 DISORGANISED
OPEN TO HELP C2	3	3	4	4	5	C2 CLSOED TO HELP
FLEXIBLE C3	5	4	3	4	5	C3 RIGID
COMFORTABLE C4	5	5	4	3	3	C4 UNEASY
MATURE IN LIFE C5	5	3	4	3	5	C5 IMMATURE
GENTLE APPROACH C6	4	3	3	3	3	C6 ABRASSIVE APPROACH
DIPLOMATIC C7	4	3	3	2	4	C7 NOT DIMPLOMATIC
DETERMINED C8	5	4	4	4	3	C8 WEAK-WILLED
PROFESSIONAL C9	4	4	5	3	4	C9 STUDENT
SENSITIVE C10	5	4	4	5	5	C1 INDIFFERENT
STRONG IN ROLE C11	4	4	5	3	3	C1 UNSURE OF ROLE
ASSERTIVE C12	3	5	5	3	3	C1 HESITANT
SHOWING INITIATIVE C13	4	4	5	3	5	C1 APATHETIC
STRONG STAFF RELATIONSHIPS C14	5	4	3	4	4	C1 WEAK STAFF RELATIONSHIPS
DYNAMIC C15	4	3	4	4	3	C1 STAID
CONFIDENT C16	4	4	5	4	3	C1 INSECURE

SUBJECT
SUPERVISOR
BEST OT
WORST OT
STUDENT OT

Graduate 6



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ENERGETIC C1	4	3	4	2	5	C1 LAZY
OPEN C2	4	4	4	1	5	C2 CLOSED
FLEXIBLE C3	5	4	5	1	3	C3 RIGID
SUPPORTIVE C4	5	5	4	1	5	C4 NOT SUPPORTIVE
ASSERTIVE C5	4	5	5	1	3	C5 HESITANT
REALISTIC C6	3	4	5	2	1	C6 OPTIMIST
DEVELOPING / LEARNING C7	3	5	5	1	5	C7 STATIC
ENTHUSIASTIC C8	3	4	5	1	5	C8 DISINTERESTED
CARING C9	3	5	5	1	5	C9 UNCARING
ORGANSIED C10	3	5	5	3	4	C1 DISORGANISED
IN CONTROL C11	3	4	5	1	3	C1 OUT OF CONTROL
SENSE OF HUMOUR C12	4	5	3	1	4	C1 DOUR
PROFESSIONAL C13	3	5	5	1	4	C1 AMATEUR
COMMITTED C14	5	5	5	1	5	C1 LACKING COMMITMENT
KNOWLEDGE GOOD C15	3	4	5	1	3	C1 KNOWLEDGE POOR
STRONG IN OT ROLE C16	4	5	5	1	2	C1 WEAK IN OT ROLE

SUBJECT
SUPERVISOR
BEST OT
WORST OT
STUDENT OT

Supervisor 6

Grid 6

5 positive pole 1 -- negative pole

Interview 7

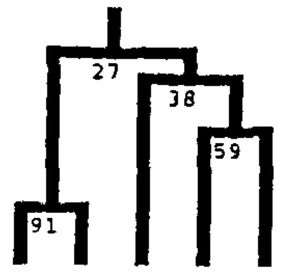
This was another interview conducted within a psychiatric setting, although within a large hospital. The graduate identified the supervisor's strengths as her experience in the profession. The supervisor had been qualified for 15 years and been in the present position for two years ten months. The supervisor saw the graduate's strengths as maturity and life experience prior to training and general ability to work effectively with people.

Correlation of elements

The graduate and supervisor identified a similar numbers of constructs; the graduate identified 14 constructs and the supervisor 16 constructs. Both the graduate and supervisor identified the same first cluster as the 'subject' and the 'supervisor' the graduate had a correlation of 91% and the supervisor 84% correlation, thereafter the pattern of clusters differed considerably. The graduate's second cluster was between the 'worst occupational therapist' and the 'student occupational therapist' with a correlation of 59%, the third cluster was this second cluster linked with the 'best occupational therapist' and the final cluster linked the third cluster and the first cluster with 27% correlation. The supervisor's second cluster was between the first cluster and the 'best occupational therapist', the third cluster linked the second cluster with the 'worst occupational therapist' with 69% correlation, and the final cluster linked the 'students occupational therapist' with the third cluster with a 68% correlation.

In examining the groupings of clusters the graduate identified considerably more 'psychological' constructs than the supervisor did:

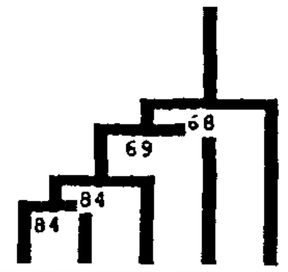
Constructs	Graduate 7	Supervisor 7
Work	3	5
Relationships	5	4
Psychological	5	1
Occupational therapy	3	4
Total	16	14



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
LIFE EXPERIENCE C1	4	5	1	4	2	C1 INEXPERIENCED
OPEN / UP FRONT C2	4	4	1	4	4	C2 CLOSED
GOOD RAPPORT C3	5	5	2	5	3	C3 LACKING RAPPORT
COMMUNICATOR C4	4	4	1	4	3	C4 NON COMMUNICATIVE
SHOWS INITIATIVE C5	3	4	1	3	2	C5 LACKING INITIATIVE
EFFECTIVE C6	4	4	1	4	2	C6 INEFFECTIVE
EXPERIENCED CLINCIAL C7	3	4	2	3	1	C7 INEXPERIENCED CLINICALLY
INDEPENDENT WORK NATURE C8	4	5	2	4	1	C8 DEPENDENT WORK NATURE
SELF ASSURED C9	4	4	1	4	2	C9 LACKING ASSURANCE
WILLING TO TRY SOMETHING NEW C10	4	4	1	4	3	C1 UNWILLING TO EXPERIMENT
TAKES LONG TERM VIEW C11	4	4	3	4	1	C1 SHORT TERM VIEW
SEEKS HELP / DIRECTION C12	5	5	2	4	4	C1 INDEPENDENT
RESPONSBILE C13	4	5	1	4	2	C1 IRRESPONSBILE
DEAS WITH VARIETY OF PEOPLE C14	5	5	2	5	3	C1 LIMITED CONTACT WTIH PEOPL

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Graduate 7



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
OPEN TO DEVELOPMENT C1	4	4	4	3	5	C1 CLOSED TO LEARNING
CONFIDENT C2	3	5	4	4	5	C2 LACKING CONFIDENCE
EXPERIENCED CLINICAL C3	3	5	3	4	3	C3 INEXPERIENCED CLINICALLY
OPEN / UP FRONT C4	4	4	3	2	3	C4 CLOSED
ENTHUSIASTIC C5	4	4	4	2	5	C5 LACKING ENTHUSIASM
WARM APPROACH C6	4	4	4	2	4	C6 UNFEELING
GOOD SENSE OF HUMOUR C7	4	4	5	2	4	C7 LACKING HUMOUR
OVER CONSCIENTIOUS C8	5	4	5	4	4	C8 LACKING CONSCIENTIOUSNESS
OPEN TO SUGGESTIONS C9	5	4	5	3	4	C9 CLOSED TO IDEAS
RESPONSIBLE C10	5	5	5	5	4	C1 LACKING RESPONSBILITY
ASSERTIVE C11	3	5	3	4	4	C1 UNASSERTIVE
SENSITIVE C12	5	4	5	3	4	C1 INSENSITIVE
ABLE TO 'CUT OFF' C13	3	5	4	3	4	C1 UNABLE TO 'CUT OFF'
ENJOYS WORK C14	5	5	5	3	5	C1 HATES WORK
LIFE EXPERIENCED C15	5	5	5	5	3	C1 LIMITED LIFE EXPERIENCE
SHOWS INITIATIVE C16	5	5	5	4	4	C1 LACKING INITIATIVE
SERIOUS C17	3	3	3	4	2	C1 LIGHT-HEARTED

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Supervisor 7

Grid 7

5 = positive pole 1 = negative pole

Interview 8

This interview took place in a medium sized general hospital, where the supervisor was head of the occupational therapy service. The graduate had not worked prior to starting the occupational therapy course, but had completed other higher educational courses. The supervisor had been a mature student prior to training 10 years previously and had been in the present post for four years nine months. The graduate identified the supervisor as someone who was very conscious of the work environment and who did not appear to challenge the system. The supervisor identified that the graduate was someone who wanted to change everything but did not really think through the process or the consequences or 'knock-on' effects on other staff or the service.

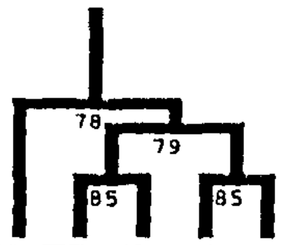
Correlation of elements

In examining the two grids produced the graduate produced 20 constructs and the supervisor 21 constructs (see Grid 8). The graduate's first cluster was between the 'supervisor' and the 'best occupational therapist' with 85% correlation, the second cluster linked the 'worst occupational therapist' and the 'student occupational therapist', the first and second clusters were linked together as the third cluster with a correlation of 79%. The final cluster linked the third cluster to the 'subject' with a correlation of 78%. The supervisor's grid showed a different pattern with the first cluster between the 'supervisor' and the 'best occupational therapist' with a correlation of 70%, the second cluster linked this first cluster the 'subject' with a correlation of 68%. The third cluster between the 'worst occupational therapist' and the 'student occupational therapist' with a

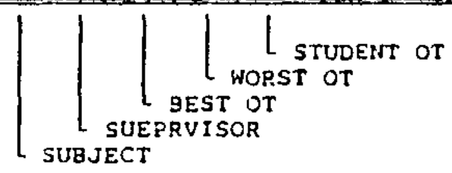
correlation of 57%, the final cluster linked the second and third cluster with a correlation of 38%.

The analysis of groupings of constructs show that the graduate identified more 'psychological' constructs and the supervisor identified more 'work' constructs.

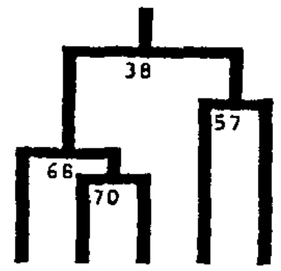
Constructs	Graduate 8	Supervisor 8
Work	4	9
Relationships	6	1
Psychological	7	5
Occupational therapy	3	3
Total	20	21



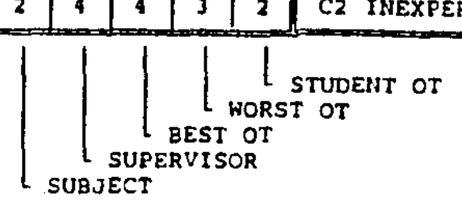
CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
CO-OPERATIVE C1	4	5	4	4	4	C1 NOT CO-OPERATIVE
ADAPTABLE C2	4	4	5	3	4	C2 RIGID
HARD-WORKING C3	4	5	5	3	3	C3 LAZY
EASY-GOING C4	4	4	3	3	5	C4 SERIOUS
IDEAS PERSON C5	5	3	4	4	4	C5 GET ON WITH WORK
EFFICIENT C6	5	5	4	4	4	C6 INEFFICIENT
NEGIOTATING C7	4	5	5	3	4	C7 NOT NEGIOTATING
ACCEPTING C8	3	5	4	3	4	C8 REBELLIOUS
EFFICIENT C9	5	5	4	4	4	C9 INEFFICIENT
STUDIOUS C10	4	4	4	3	4	C1 LAID-BACK
TAKES WIDE PRESPECTIVE C11	4	4	3	3	4	C1 DETAIL ORIENTATED
REALISTIC C12	5	4	4	3	3	C1 STRONG-WILLED
EFFECTS CHANGE C13	4	4	4	4	3	C1 NOT WILLING TO WORK AT CHA
CONSIDERS CONSEQUENCES C14	1	4	4	3	1	C1 HEAD-STRONG
ENERGETIC C15	5	3	5	3	3	C1 PLODDER
INDUSTRIOUS C16	3	4	4	3	3	C1 LAZY
EMPATHETIC C17	4	4	5	3	3	C1 UNCAING
COMPLIANT C18	3	4	3	3	4	C1 NON COMPLIANT
GOOD INTERPERSONAL SKILLS C19	3	5	5	4	5	C1 POOR INTERPERSONAL SKILLS
REALISTIC C20	5	4	4	5	5	C2 IDEALISTIC



Graduate 8



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
FORMAL C1	3	5	4	2	3	C1 CASUAL
ASSERTIVE C2	4	4	4	2	4	C2 UNASSERTIVE
DEDICATED C3	4	3	5	2	4	C3 UNCARING
WANTS TO DO GOOD JOB C4	4	3	5	1	4	C4 'SCHIVING'
REALISTIC C5	3	4	4	2	3	C5 UNREALISTIC
STRUCTURED C6	5	3	4	1	2	C6 UNSTRUCTURED
THOROUGH C7	4	3	5	1	3	C7 LAID BACK
SATISFIED C8	4	3	4	2	4	C8 DISSATISIFIED
EXPERIENCED C9	2	4	4	3	2	C9 NAIVE
IDEALISTIC C10	3	3	2	1	3	C1 REALISTIC
HIGH STANDARDS C11	5	3	5	1	4	C1 LOW STANDARDS
LAID-BACK C12	1	3	3	5	4	C1 UP-TIGHT
MAXIMUM EFFORT C13	4	3	4	1	3	C1 MINIMUM EFFORT
KNOWS THE ANSWER C14	2	4	5	3	3	C1 INEXPERIENCED
AWARE OF NEED FOR SUPERVISION C15	5	3	5	3	5	C1 UNAWARE OF NEED FOR SUPERV
GIVES SUPERVISION C16	4	2	5	3	4	C1 DOES NOT GIVE SUPERVISION
HAPPY C17	4	3	4	2	4	C1 UNHAPPY
ASSERTIVE C18	4	3	5	1	4	C1 EAGER TO PLASE
RESPONSBILE C19	4	4	5	2	4	C1 TAKES EASY OPTION
ABLE TO PRIORITISE C20	4	3	5	2	4	C2 NOT ABLE TO PRIORITISE
EXPERIENCED C21	2	4	4	3	2	C2 INEXPERIENCED



Supervisor 8

Grid 8

5 - positive pole 1 = negative pole

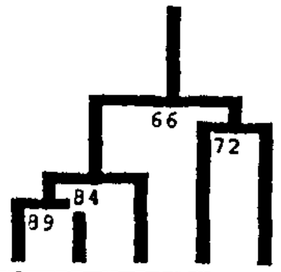
Interview 9

The graduate and supervisor in this interview worked within a medium size general hospital (This was the same supervisor as in interview 8). The graduate being one of the oldest mature students and the supervisor had also been a mature student on starting training. The graduate had been five months in the present post and had worked as an occupational therapy assistant prior to starting an HNC in Occupational Therapy course and then joining second year of the BSc in Occupational Therapy course. The supervisor was head of the occupational therapy service within the hospital, had been qualified 10 years and had been in the present post four years and nine months.

Correlation of elements

The graduate identified 24 constructs and the supervisor identified 19 constructs. The graduate's first cluster linked the 'supervisor' and the 'best occupational therapist' with a correlation of 89%, the second cluster linked the first to the 'subject' with a 84% correlation. The third cluster linked the 'worst occupational therapist' with the second cluster with a 54% correlation and the final cluster linked the 'student occupational therapist' to the third cluster with a 53% correlation. The supervisor's grid followed a different pattern, with the first cluster linked the 'subject' and 'supervisor' with a 89% correlation, the second cluster linked the 'best occupational therapist' to the first cluster with a 84% correlation, and third cluster linked the 'worst occupational therapist' and the 'student occupational therapist with a 72% correlation and the final cluster linked the second and third clusters with 66% correlation.

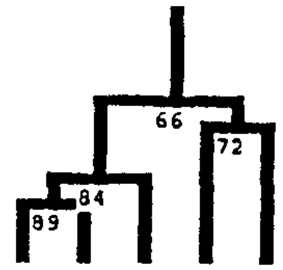
Constructs	Graduate 9	Supervisor 9
Work	5	7
Relationships	5	4
Psychological	5	5
Occupational therapy	9	3
Total	24	19



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ORGANISED C1	5	5	4	3	4	C1 DISORGANSIED
FLEXIBLE C2	4	5	5	3	4	C2 RIGID
APPROACHABLE C3	4	5	5	4	4	C3 RESERVED
POSITIVE ATTITUDE C4	5	4	5	4	5	C4 NEGATIVE ATTITUDE
OPEN TO IDEAS C5	4	5	5	4	5	C5 CLOSED TO IDEAS
POSITIVE APPROACH C6	4	4	5	4	5	C6 NEGATIVE APPROACH
DYNAMIC C7	4	4	5	3	5	C7 LIKES ROUTINE
BUSY C8	5	5	5	2	5	C8 LAZY
HOLISITIC C9	5	4	5	3	4	C9 FOCUSSED
GOOD RAPPORT C10	5	5	5	4	5	C1 POOR RAPPORT
EXPERIENCED C11	4	4	5	4	3	C1 NOVICE
SUPERIORITY C12	4	4	5	3	4	C1 INFERIORITY
DIPLOMATIC C13	5	5	5	4	4	C1 DIRECT
LIVELY C14	4	4	5	3	4	C1 QUIET
ORGANISED C15	5	5	3	3	4	C1 SLAP-DASH
LIKES ROUTINE C16	5	4	4	3	4	C1 DISLIKES ROUTINE
PROACTIVE C17	4	5	5	2	5	C1 LAID-BACK
HOLISTIC C18	5	4	5	4	4	C1 FOCUSSED APPROACH
GOOD TIME KEEPING C19	5	5	4	4	5	C1 POOR TIME KEEPING

STUDENT OT
WORST OT
BEST OT
SUEPRVISOR
SUBJECT

Graduate 9



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ORGANISED C1	5	5	4	3	4	C1 DISORGANSIED
FLEXIBLE C2	4	5	5	3	4	C2 RIGID
APPROACHABLE C3	4	5	5	4	4	C3 RESERVED
POSITIVE ATTITUDE C4	5	4	5	4	5	C4 NEGATIVE ATTITUDE
OPEN TO IDEAS C5	4	5	5	4	5	C5 CLOSED TO IDEAS
POSITIVE APPROACH C6	4	4	5	4	5	C6 NEGATIVE APPROACH
DYNAMIC C7	4	4	5	3	5	C7 LIKES ROUTINE
BUSY C8	5	5	5	2	5	C8 LAZY
HOLISITIC C9	5	4	5	3	4	C9 FOCUSSED
GOOD RAPPORT C10	5	5	5	4	5	C1 POOR RAPPORT
EXPERIENCED C11	4	4	5	4	3	C1 NOVICE
SUPERIORITY C12	4	4	5	3	4	C1 INFERIORITY
DIPLOMATIC C13	5	5	5	4	4	C1 DIRECT
LIVELY C14	4	4	5	3	4	C1 QUIET
ORGANISED C15	5	5	3	3	4	C1 SLAP-DASH
LIKES ROUTINE C16	5	4	4	3	4	C1 DISLIKES ROUTINE
PROACTIVE C17	4	5	5	2	5	C1 LAID-BACK
HOLISTIC C18	5	4	5	4	4	C1 FOCUSSED APPROACH
GOOD TIME KEEPING C19	5	5	4	4	5	C1 POOR TIME KEEPING

STUDENT OT
WORST OT
BEST OT
SUEPRVISOR
SUBJECT

Supervisor 9

Grid 9

5 = positive pole 1 = negative pole

Interview 10

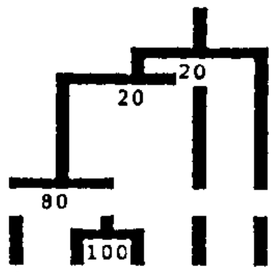
This interview took place in a large specialised hospital; the supervisor had been qualified four and a half years and been in the present position two years and 10 months. She had not worked prior to commencing training course. The graduate had been in post for eight months and had worked as an occupational therapy assistant prior to commencing training. The supervisor identified the graduate's abilities as the amount of energy put into the work and general enthusiasm for the job. The graduate identified the supervisor as someone who it was difficult to know how to react to and difficult to 'pin down'.

Correlation of elements

These two interviewees produced the least number of constructs; the graduate produced 10 constructs and the supervisor produced 13 constructs; the two grids followed different patterns. The graduate's first cluster of elements was between the 'supervisor' and the 'best occupational therapist' with 100% correlation, the second cluster linked this first cluster to the 'subject' with 80% correlation, the third cluster linked the second cluster to the 'worst occupational therapist' with 20% correlation and the final cluster linked the 'student occupational therapist' to the third cluster with 20% correlation. The supervisor's grid had the first cluster of the 'supervisor' and the 'best occupational therapist' with 96% correlation, the second cluster was between the first cluster and the 'worst occupational therapist', the third cluster linked the second cluster to the 'subject' with 81% correlation and the final cluster linked the third cluster to the 'student occupational therapist' with 69% correlation.

Whilst the grids followed different patterns an analysis of constructs groupings demonstrated similar patterns.

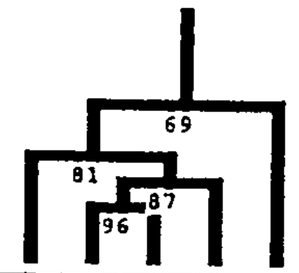
Constructs	Graduate 10	Supervisor 10
Work	1	2
Relationships	3	2
Psychological	4	3
Occupational therapy	5	3
Total	13	10



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ORGANISED C1	5	5	5	1	5	C1 DISORGANISED
FRIENDLY / OPEN C2	4	3	3	4	3	C2 DISTANT
GOOD THEORY C3	3	5	5	1	5	C3 LIMITED THEORY
BUSY C4	5	5	5	1	5	C4 LAZYLE HEAD ON
TACKLE HEAD ON C5	4	4	4	1	4	C5 RETIRING
EFFICIENT C6	5	5	5	1	5	C6 INEFFICIENT
DETACHED FROM CLIENTS C7	5	3	3	3	3	C7 UNABLE TO SWITCH OFF
TIME MANAGEMENT GOOD C8	4	5	5	1	5	C8 POOR TIME MANAGEMENT
ACADEMIC / REFLECTIVE C9	3	5	5	1	5	C9 NON REFLECTIVE
'ON THE GO' C10	5	5	5	1	5	C1 QUIET

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Graduate 10



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
COMMUNICATOR C1	4	4	4	3	4	C1 UNCOMMUNICATIVE
REALIABLE C2	4	4	4	3	4	C2 UNREALIABLE
LISTENER C3	5	4	4	3	5	C3 NON LISTENER
BOSSY C4	1	4	4	4	1	C4 UNASSERTIVE
ORGANISED C5	5	5	5	4	4	C5 DISORAGNISED
ASSERTIVE C6	1	4	4	4	1	C6 UNASSERTIVE
APPROACHABLE C7	5	4	4	3	4	C7 UNAPPROCHABLE
REFLECTIVE C8	4	5	4	4	5	C8 NON REFLECTIVE
CONFIDENT C9	4	4	4	5	3	C9 LACKING CONFIDENCE
BUSY C10	4	4	4	4	4	C1 LAZY
'ON THE GO' C11	5	4	4	4	4	C1 LAID-BACK
ACCPETING INSTRUCTION C12	5	5	4	4	4	C1 CLOSED TO HELP
GOOD WRITTEN WORK C13	4	4	4	3	5	C1 POOR WRITTEN WORK

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Supervisor 10

Grid 10

5 = positive pole 1 = negative pole

Interview 11

This interview took place within the social work department of a large city and was different from the other interviews, as the supervisor was not a qualified occupational therapist. The graduate had been in post 10 months training as an occupational therapist as a mature student having worked in a health care setting prior to training. The supervisor was a qualified social worker had been qualified 17 years and been in the present post nine years and three months. The graduate identified the supervisor as a good supervisor who was ready to give help and support, the supervisor identified the graduate as a therapist who could work on her own initiative, demonstrating good occupational therapy knowledge and practical skills.

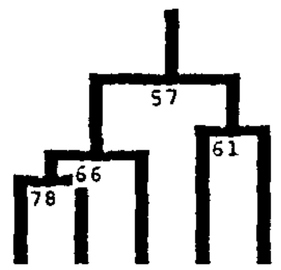
Correlation of elements

Despite the differences in professions both the graduate and supervisor identified similar numbers of constructs; the graduate identified 19 constructs and the supervisor identified 20 constructs. The patterns of the grids were identical although the individual correlation did differ. The graduate and supervisor had the 'subject' and 'supervisor' as their first correlation with the graduate having a correlation of 78% and the supervision a correlation of 89%. The second cluster and the first cluster were linked to the 'best occupational therapist' the graduate had a correlation of 66% and the supervisor a correlation of 82%. The third cluster in both grids linked the 'worst occupational therapist' and the 'students occupational therapist' together; the graduate had a correlation of 61% and the supervisor a correlation of 34%. The final cluster in both grids linked the second

and third clusters together, the graduate with a correlation of 57% and the supervisor with a correlation of 12%.

The analysis of construct groupings show that the graduate identified more 'psychological' constructs than the supervisor did.

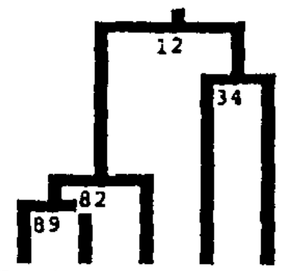
Constructs	Graduate 11	Supervisor 11
Work	1	5
Relationships	4	5
Psychological	8	4
Occupational therapy	6	6
Total	19	20



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ORGANSIED C1	4	3	5	4	5	C1 DISORGANSIED
CONFIDENT C2	3	3	4	4	4	C2 INSECURE
ENTHUSIASTIC C3	4	3	5	2	5	C3 DISINTERESTED
SENSITIVE C4	4	3	5	1	4	C4 INDIFFERENT
EXPERIENCED C5	4	2	5	3	4	C5 INEXPERIENCED
SENSE OF HUMOUR C6	5	5	5	1	5	C6 'DOUR'
PROFESSIONAL C7	5	4	5	2	5	C7 AMATEUR
KNOWLEDGE OF OT GOOD C8	4	1	5	3	5	C8 LACKING KNOWLEDGE OF OT
COMMUNICATIVE C9	4	4	4	2	4	C9 NON COMMUNICATIVE
FLEXIBLE C10	4	4	4	3	4	C1 RIGID
COLLABORATIVE APPROACH C11	4	4	4	2	4	C1 INDEPENDENT APPRAOCH
PROACTIVE OT C12	5	2	5	5	5	C1 REACTIVE FOR OT
HIGH EXPECTATIONS C13	4	3	4	5	4	C1 LOW EXPECTATIONS
POSITIVE OUTLOOK C14	3	3	4	4	4	C1 NEGATIVE OUTLOOK
KNOWLEDGE GOOD C15	4	2	5	4	4	C1 LACKING KNOWLEDGE
DEVELOPMENT C16	5	3	5	5	5	C1 STATIC
INDEPENDENT C17	4	4	4	5	4	C1 RELIANT
APPROACHABLE C18	5	5	5	1	5	C1 UNAPPROACHABLE
REALISTIC C19	5	5	4	2	4	C1 UNREALISTIC

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Graduate 11



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ORGANISED C1	5	5	5	1	5	C1 DISORGANSIED
COMPETENT C2	5	5	5	1	3	C2 INCOMPETENT
REALIBLE C3	5	5	5	1	5	C3 UNREALIABLE
CONFIDENT C4	3	3	5	1	4	C4 INSECURE
FLEXIBLE C5	5	5	5	2	5	C5 RIGID
APPROACH / OPEN C6	4	5	5	2	5	C6 CLOSED
ASSERTIVE C7	5	3	5	1	4	C7 HESITANT
INITIAIVE C8	4	3	5	1	3	C8 APATHY
HOLISTIC APPROACH C9	5	5	5	1	5	C9 RESTRICTED APPROACH
EXPERIENCED C10	3	2	5	1	2	C1 INEXPERIENCED
INSIGHTFUL C11	4	4	4	1	4	C1 NO INSIGHT
DOESN'T PERSONALISE C12	5	5	5	1	5	C1 TAKES EVERYTHING TO HEART
LIFE EXPERIENCE C13	3	4	4	4	3	C1 INEXPERIENCED
KNOWLEDGE OF OT C14	4	1	5	1	1	C1 UNSURE OF OT KNOWLEDGE
'DOWN TO EARTH C15	5	5	5	2	5	C1 UNREALISTIC
TEAM MEMBER C16	5	5	5	2	4	C1 INDIVIDUALIST
OPEN TO SELF DEVLEOPMENT C17	5	5	5	1	5	C1 CLOSED TO DEVELOPMENT
INDEPENDENT C18	4	4	5	1	3	C1 DEPENDENT
SENSE OF HUMOUR C19	5	5	5	2	4	C1 'DOUR'
PROFESSIONAL C20	5	5	5	1	4	C2 AMATEUR

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Supervisor 11

Grid 11

5 - positive pole 1 = negative pole

Interview 12

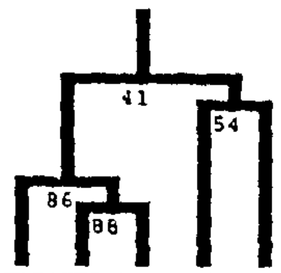
This interview took place in a large general teaching hospital; the supervisor had been qualified for eight years and had been in the present post for three years and seven months but had not worked prior to training. The graduate had been in post for 10 months and had worked in a caring position prior to taking up the occupational therapy course. The graduate identified the supervisor as a therapist who was not very communicative to other staff members but did work well with clients. The supervisor stressed the graduate's lack of experience within a hospital setting together with lack of confidence as main weaknesses wihtin the work-place, although this was linked closely to a keen desire to learn and develop.

Correlation of elements

The two grids produced were very similar in pattern; however, the graduate produced 20 constructs and the supervisor produced 12 constructs. The graduate and supervisor grids linked the 'supervisor' and the ' best occupational therapist' with the graduate having a correlation of 88% and the supervisor having 98% correlation. The second clusters in each grid were linking the first clusters to the 'subject' with correlation of 86% for the graduate and 77% for the supervisor. The third correlation, as in several other grids, identified the link between the 'worst occupational therapist' and the 'student occupational therapist' with the graduate having 54% correlation and the supervisor having 65% correlation. The final clusters in both grids linked the second and third clusters together the graduate showing a correlation of 41% and the supervisor and correlation of 42%.

As with other analysis of construct groupings the graduate identified many more 'psychological' constructs than the supervisor did.

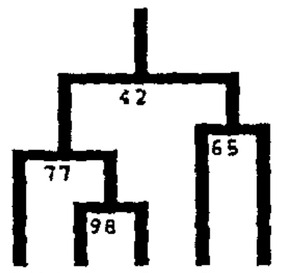
Constructs	Graduate 12	Supervisor 12
Work	5	5
Relationships	3	3
Psychological	7	1
Occupational therapy	3	3
Total	18	12



CONSTRUCT POLE RATED - .	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ORGANISED C1	4	5	5	1	2	C1 DISORGANSIED
EFFICIENT C2	5	5	5	2	5	C2 INEFFICIENT
SKILLED C3	4	5	5	3	4	C3 UNSKILLS
APPROACHABLE C4	5	5	5	5	5	C4 UNAPPROACHABLE
RELAXED C5	4	3	4	1	3	C5 UPTIGHT
RELAXED C6	4	3	5	1	3	C6 STRESSED
GOOD COMMUNICATOR C7	5	4	5	3	4	C7 POOR COMMUNCIATOR
CONFIDENT C8	4	4	5	1	5	C8 INSECURE
HAPPY C9	5	5	5	2	5	C9 DISCONTENT
STABLE PROFESSIONALLY C10	5	5	5	1	5	C1 UNSTABLE PROFESSIONALLY
STABLE PERSONNALLY C11	5	5	5	2	5	C1 UNSTABLE PERSONNALLY
THOROUGH C12	5	5	5	3	5	C1 RELAXED
PROFESSIONAL C13	5	5	5	5	5	C1 AMATEUR
LISTENER C14	5	4	5	4	4	C1 NOT LISTENING
HARD-WORKER C15	5	5	5	5	5	C1 LAZY
FLEXIBLE C16	4	2	5	4	4	C1 RIGID
PLANNER C17	4	5	5	4	5	C1 SPUR OF THE MOMENT
GOOD TIME MANAGEMENT C18	5	5	5	1	5	C1 POOR TIME MANAGEMENT
LAID BACK C19	4	3	4	1	4	C1 UPTIGHT
COMPETENT C20	4	5	5	2	5	C2 INCOMPETENT

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Graduate 12



CONSTRUCT POLE RATED - .	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED - .
ORGANISED C1	3	5	4	1	4	C1 DISORGANSIED
SECURE C2	4	4	4	2	3	C2 APPREHENSIVE
APPROACHABLE C3	5	5	5	4	5	C3 UNAPPROACHABLE
COMPETENT C4	4	5	5	2	4	C4 INEPT
AWARE OF LIMITATIONS C5	4	4	4	3	4	C5 UNAWARE OF LIMITATIONS
ABLE TO PRIORITISE C6	4	5	5	2	4	C6 UNABLE TO PRIORITISE
EMPATHETIC C7	2	5	5	2	3	C7 SYMPATHETIC
GOOD COMMUNICATOR C8	5	5	5	2	4	C8 POOR COMMUNICATOR
EFFICIENT C9	4	5	5	1	2	C9 INEFFICIENT
DEVELOPING C10	5	4	4	3	5	C1 STATIC
CONFIDENT C11	4	5	5	1	2	C1 APPREHENSIVE
SUPERVISION SOUGHT C12	5	4	4	4	4	C1 SUPERVISION NOT SOUGHT

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Supervisor 12

Grid 12

5 = positive pole 1 = negative pole

Interview 13

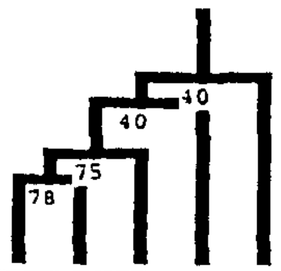
This interview took place within the social work department within a large city; the graduate had been in post 10 months having starting training straight from school, the supervisor had been qualified 11 years and been in the present position for seven years and seven months, also having started training straight from school. The graduate identified the supervisor's organisational and problem solving abilities as strengths whilst the supervisor identified the graduate's strengths as the ability to view the overall situation and teamworking skills.

Correlation of elements

The graduate identified 16 constructs and the supervisor identified 23 constructs. The graduate linked the elements of 'subject' and 'supervisor' with a correlation of 88% as the first cluster, the second cluster linked the first cluster to that of the 'best occupational therapist' with a correlation of 86%, the third cluster linked this second cluster to the element 'worst occupational therapist' with a correlation of 67% and the final cluster linked the third cluster to element 'student occupational therapist' again with a correlation of 67%. The supervisor's grid showed a first cluster of elements 'subject' and 'supervisor' with a correlation of 83%, the second cluster was this first cluster linked to 'best occupational therapist' with a correlation of 82%. The third cluster was the element 'worst occupational therapist' linked to 'student occupational therapist' with a correlation of 72%, and the final cluster linked the second and third clusters together with a correlation of 64%.

Groupings of constructs analysis showed once again that the student identified more 'psychological' constructs than the supervisor did, though the supervisor identified more constructs.

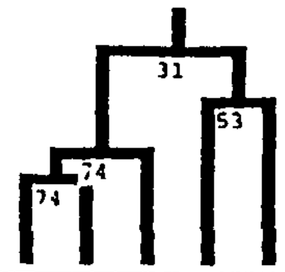
Constructs	Graduate 13	Supervisor 13
Work	4	5
Relationships	4	5
Psychological	8	4
Occupational therapy	6	2
Total	22	16



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
INDEPENDENT C1	4	5	5	4	1	C1 DEPENDENT
RESPONSBILE C2	4	5	5	1	3	C2 IRRESPONSBILE
COLLABORATE C3	5	5	3	1	3	C3 WORKS ALONE
CARING C4	5	5	4	1	5	C4 UNCARING
RECEPTIVE C5	4	4	2	1	5	C5 CLSOED
EFFECTIVE COMMUNICATOR C6	3	4	3	2	3	C6 NON EFFECTIVE COMMUNCIATOR
SHOWS INITIAIVE C7	4	5	4	1	4	C7 APATHY
ACTIVE LEARNING C8	5	5	5	2	5	C8 NOT DEVELOPING
ESTABLISHS RAPPORT C9	5	5	4	2	5	C9 NO RAPPORT
OPTIMIST C10	2	5	2	1	5	C1 CYNIC
SEEKS SUPERVISION C11	3	4	5	1	1	C1 NEEDS SUPERVISION
ASSERTIVE C12	2	4	5	4	3	C1 HESITANT
REALISTIC C13	3	2	4	2	4	C1 IDEALISTIC
PROFESSIONAL C14	5	5	5	1	4	C1 NOVICE
KNOWLEDGE GOOD C15	3	5	5	1	2	C1 POOR KNOWLEDGE

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Graduate 13



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
ENTHUSIASTIC C1	5	5	5	2	5	C1 DISINTERESTED
CONFIDENT C2	3	5	3	1	2	C2 INSECURE
RESPONSBILE C3	4	5	4	1	3	C3 UNREALIBLE
SHOWS INITIATIVE C4	4	5	4	1	3	C4 APATHETIC
EXPERIENCED C5	2	5	2	1	1	C5 INEXPERIENCED
COMPETENT C6	3	5	3	1	2	C6 INEPT
GOOD OT KNOWLEDGE C7	4	5	4	1	3	C7 POOR OT KNOWLEDGE
INSIGHT INTO ABILITIES C8	4	5	4	1	3	C8 LACKING INSIGHT TO ABILITI
PROFESSIONALISM C9	5	5	5	1	3	C9 NOVICE
ASSURED OF ABILITY C10	3	5	3	1	2	C1 DOUBTFUL OF ABILITY
ACCEPTING OF GUIDANCE C11	5	5	5	1	5	C1 NOT ACCEPTING OF GUIDANCE
OPEN TO WIDER ISSUES C12	4	5	4	1	3	C1 CLOSED
CARING C13	4	5	4	2	3	C1 UNCARING
SENSITIVE C14	4	5	4	2	3	C1 INDIFFERENT
HIGH STANDARDS C15	4	5	4	1	3	C1 LOW STANDARDS
RECEPTIVE C16	4	5	4	1	4	C1 CLOSED
ACTIVE LEARNING C17	5	5	5	1	4	C1 NOT DEVELOPING

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Supervisor 13

Grid 13

5 = positive pole 1 = negative pole

Interview 14

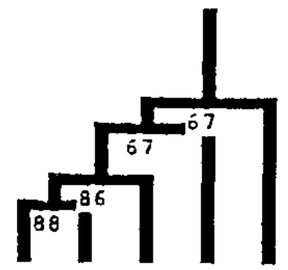
This interview was conducted within a community psychiatric setting in a large city. The graduate had been in post six months and had started training straight from school. The supervisor had been qualified eight months and had been in the present position for three months. The graduate identified sound knowledge of core skills and professionalism as the supervisor's strengths, whilst the supervisor identified good rapport as the graduates' strengths together with good understanding of the role of occupational therapy in psychiatry setting.

Correlation of elements

The grids from these two young therapists produced a similar number of constructs with the graduate identifying 15 constructs and the supervisor identifying 17 constructs (see Grid 14). The graduate linked the 'subject' and 'supervisor' with a correlation of 78%, the second cluster linked this first cluster to 'best occupational therapist' with a correlation of 75%, this second cluster is linked to 'worst occupational therapist' with a correlation of 40%, the final cluster linked the third cluster with 'student occupational therapist' with a correlation of 40%. The supervisor also linked the 'subject' to the 'supervisor' with a correlation of 74%, the second cluster also linked this first cluster to the 'best occupational therapist' with a correlation of 74%, the third cluster linked the 'worst occupational therapist' to the 'student occupational therapist' with a correlation of 53% and the forth cluster linked together the second and third clusters with a correlation of 31%.

The analysis of groupings of constructs shows that the graduate and supervisor identified similar numbers of constructs within the groupings.

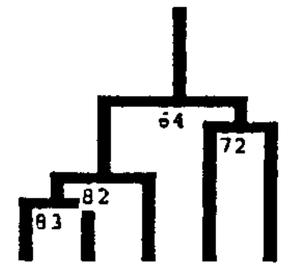
Constructs	Graduate 14	Supervisor 14
Work	3	3
Psychological	3	3
Occupational therapy	8	5
Relationships	3	4
Total	17	15



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
GENTLE APPROACH C1	5	5	5	4	5	C1 ABRUPT APPROACH
ORGANISED C2	5	5	5	4	5	C2 DISORGANSIED
CONFIDENT C3	4	5	4	5	4	C3 INSECURE
ENTHUSIASTIC C4	5	5	5	3	5	C4 DISINTEREST
ASSERTIVE C5	3	5	3	5	4	C5 HESITANT
METHODICAL C6	5	5	5	4	5	C6 DISORGANSIED
APPROACHABLE C7	5	5	5	3	5	C7 DISTANT
DYNAMIC C8	3	5	3	4	3	C8 RESERVED
EMPATHETIC C9	5	5	5	3	5	C9 HARD-HEARTED
ACADEMIC C10	5	5	5	3	5	C1 PRACTICAL
INDEPENDENT C11	4	5	4	5	4	C1 NEEDS SUPERVISION
COLLABORATES C12	4	5	4	5	4	C1 INDEPENDENT
GOOD RAPPORT C13	5	5	5	4	5	C1 NO RAPPORT
HOLISITIC APPROACH C14	5	5	5	4	5	C1 MEDICAL APPROACH
GOOD TIME MANAGEMENT C15	5	5	4	3	5	C1 POOR TIME MANAGEMENT
GOOD DECISION MAKING C16	4	5	4	5	4	C1 DECISION MAKING INEFFECTIV

SUBJECT
SUPERVISOR
BEST OT
WORST OT
STUDENT OT

Graduate 14



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
CONSCIENTIOUS C1	5	4	5	3	5	C1 UNREALIABLE
ORGANSIED C2	4	4	5	2	4	C2 DISORGANISED
CONFIDENT C3	4	4	5	2	4	C3 UNSECURE
ENTHUSIASTIC C4	5	4	5	3	5	C4 LACKING ENTHUSIASM
ASSERTIVE C5	3	5	4	2	4	C5 UNASSERTIVE
GOOD PRACTICAL KNOWLEDGE C6	3	4	4	5	4	C6 POOR PRACTICAL KNOWLEDGE
GOOD THEORY KNOWLEDGE C7	4	3	4	3	4	C7 POOR THEORY KNOWLEDGE
GOOD CLINICAL KNOWLEDGE C8	3	4	5	4	3	C8 POOR CLINICAL KNOWLEDGE
REALIABLE C9	5	4	5	2	4	C9 UNREALIABLE
COMPETENT C10	4	4	4	3	4	C1 INEPT
CARING C11	5	4	5	5	4	C1 UNCARING
LIFE EXPERIENCE C12	3	4	3	4	4	C1 NAIVE
NETWORKING - STAFF C13	4	4	4	4	4	C1 INDIVIDUAL
OPEN TO HELP C14	5	4	5	4	4	C1 CLOSED TO HELP
UP-TO-DATE C15	4	3	4	2	4	C1 OUT-OF-DATE
GOOD TIME MANAGEMENT C16	4	4	5	2	4	C1 TIME WASTER
EFFECTIVE COMMUNICATOR C17	4	4	4	4	4	C1 POOR COMMUNICATOR
ASSURED C18	3	4	4	3	3	C1 DOUBTFUL OF SELF
RISK-TAKER C19	3	4	3	4	3	C1 RELIES ON SAFETY
REALISTIC C20	4	5	4	4	4	C2 OPTIMISTIC
DEVELOPING C21	4	4	5	2	4	C2 STATIC
METHODICAL C22	4	4	4	2	4	C2 HAPHARD
AWARE OF NEED FOR SUPERVISION C23	5	4	5	5	5	C2 AVOID SUPERVISION

SUBJECT
SUPERVISOR
BEST OT
WORST OT
STUDENT OT

Supervisor 14

Grid 14

5 = positive pole 1 = negative pole

Interview 15

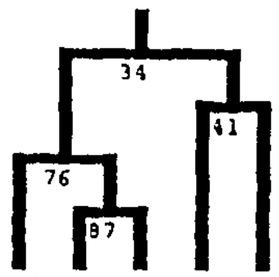
This interview was conducted in a community psychiatric setting within a rural setting. The graduate had been working for eight months having started training from school; the supervisor had been qualified 11 years and had been in present position three and a half years. The graduate identified good time management and initiative as the supervisor's strengths, whilst the supervisor identified the graduate's skills as sound knowledge of core skills, good observational skills and good interpersonal skills.

Correlation of elements

The graduate identified 17 constructs and the supervisor identified 14 constructs. The graduate and supervisor linked together the 'supervisor' and 'best occupational therapist' as the first clusters with the graduate having a correlation of 87% and the supervisor having a correlation of 73% (see Grid 15). The second clusters in both grids linked the first cluster to the 'subject' with the graduate having a correlation of 76% and the supervisor having a correlation of 66%. The graduate identified the third cluster as a 41% correlation between the 'worst occupational therapist' and the 'students occupational therapist', the fourth cluster links together the second and third clusters with a correlation of 34%. The supervisor identified the third cluster linked to the second cluster and the 'worst occupational therapist' with a correlation of 61%, the final correlation of 58% shows the link between the third cluster and the 'students occupational therapist'.

The group analysis of constructs shows that the graduate identified three times as many 'occupational therapy' constructs than the supervisor.

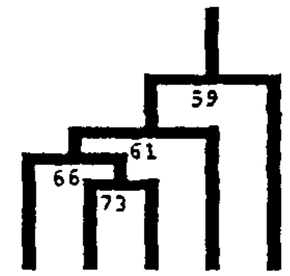
Constructs	Graduate 15	Supervisor 15
Work	2	3
Relationships	2	2
Psychological	3	6
Occupational therapy	9	3
Total	16	14



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
INTERPERSONAL SKILLS GOOD C1	5	5	5	1	5	C1 LIMITED PEOPLE SKILLS
ORGANISED C2	3	4	5	3	4	C2 DISORGANSIED
MATURE C3	3	5	4	1	5	C3 IMMATURE
KNOWLEDGE OT GOOD C4	3	5	5	1	3	C4 LACKING OT KNOWLEDGE
CONFIDENT C5	3	4	4	3	4	C5 LACKING CONFIDENCE
GOOD EVALUATION OF SELF C6	5	5	5	1	3	C6 NO SELF EVALUATION
TAKES CRITICISM C7	5	5	3	3	3	C7 NOT TAKING CRITICISM
OPENNESS C8	5	5	5	3	5	C8 CLSOED
PROFESSIONALISM C9	5	5	5	1	5	C9 NOT PROFESSIONAL
LIFE EXPERIENCE C10	3	5	3	1	5	C1 INEXPERIECNED
ASSURED C11	3	4	4	2	3	C1 LAKCING ASSURANCE
ACCEPTING OF INFORMATION C12	5	4	3	1	5	C1 RESISTANT TO INFORMATION
NEEDS SUPERVISION C13	3	4	3	5	5	C1 INDEPENDENT
HIGH SELF STANDARDS C14	4	5	5	2	5	C1 NO STANDARDS
POSTIVIE APPROACH TO WORK C15	4	5	5	1	5	C1 LAID BACK APPROACH
LACKING OT EXPERIENCE C16	3	2	3	1	1	C1 INEXPERIENCED
CONTINUING DEVELOPMENT C17	3	5	5	1	5	C1 STATIC

BEST OT
WORST OT
BEST OT
SUEPRVISOR
SUBJECT

Graduate 15



CONSTRUCT POLE RATED -	E 1	E 2	E 3	E 4	E 5	CONSTRUCT POLE RATED -
CONFIDENT C1	3	5	4	1	2	C1 LACKING CONFIDENCE
RESPONSBILE C2	4	5	4	4	3	C2 IRRESPONSBLE
REQUIRES SUPPORT C3	2	5	3	4	1	C3 INDEPENDENT
GOOD STAFF RELATIONSHIPS C4	4	5	4	1	3	C4 POOR RELATIONSHIPS
ASSERTIVE C5	3	5	4	1	3	C5 PASSIVE
WELL MOTIVATED C6	5	5	5	2	5	C6 UNMOTIVATED
ORGANSIED C7	2	4	3	3	3	C7 DISORGANISIED
OPEN C8	4	4	4	2	4	C8 CLOSED
REASSURED C9	3	5	3	4	2	C9 NEEDS REASSURANCE
DEPENDENT C10	3	4	3	4	2	C1 INDEPENDENT
SHOW INITIATIVE C11	4	4	4	3	3	C1 NO INITIATIVE
EFFECTIVE C12	3	5	4	3	2	C1 INEFFECTIVE
SELF RELIANCE C13	4	5	3	4	2	C1 DEPENDENT
DEVELOPING KNOWLEDGE C14	5	3	5	3	5	C1 STATIC

STUDENT OT
WORST OT
BEST OT
SUPERVISOR
SUBJECT

Supervisor 15

Grid 15

5 positive pole 1 = negative pole

Despite the differences between the particular girds (reflecting the individuals' personal observations and thinking). There were, however, evident commonalities. These were; the number of similar constructs both graduates and supervisors identified; the number of graduates and supervisors who identified clear similarities between them; and the number of positive constructs identified with regard to graduates and supervisors.

Experience of using repertory grids illustrated the feasibility and acceptance of the technique to the participants, who stated that they themselves had increased their self-awareness through participation therefore validating the relevance of such a technique to a study where the main focus is self-assessment.

7.6 Summary of findings

The main participants of this investigation were occupational therapy students (n = 113) at two institutions of higher education in Scotland, offering a BSc in Occupational Therapy. The investigation was a longitudinal study conducted over a four year period, with data being collected from three cohorts of students throughout the three years of their courses. The data was collected using four different tools: analysis of course documents; student self-ratings forms; students and academic staff questionnaires; and repertory grid interviews with graduates and their immediate work-place supervisors.

The major question considered in this study was whether or not students would award themselves the same ratings as staff. This approach to self-assessment was adopted rather than other less manageable methods such as student-kept journals. It was hoped to establish 'hard data' for comparative purposes. This study shows that occupational therapy students consistently under-rate themselves in academic assessments when compared with staff. This may go some way to dispel fears that students will over-rate themselves in self-assessment situations. The study also suggested that students' ability to self-assess does not necessarily improve over the period of the course.

Student occupational therapists were very positive towards the use of self-assessment within their course, regarding self-assessment favourably although their responses suggested that they were anxious and uncomfortable about carrying it out. Staff appeared more apprehensive about student self-assessment, although they viewed it with interest. Both groups saw self-assessment taking place within the clinical element of the course rather than within the academic component, although there was evidence of a variety of self-assessment / self-reflective being used in the universities as well as peer-assessment.

The repertory grids revealed that occupational therapists used a large number of occupational therapy constructs. Numbers of constructs identified being significantly higher than other similar studies with other health professionals. The occupational therapy graduates and their work-place supervisors were in agreement with regard to graduates' strengths and weaknesses within the

workplace. Supervisors identified 'work' and 'relationships' constructs in the graduates, whereas the latter tended to emphasis 'psychological' aspects of work and 'occupational therapy skills'.

The course documents revealed that the course emphasised critical thinking, life-long professional development and self-evaluation. There would appear, however, to be little evidence of this within the academic component of the courses with teaching appearing to be highly structured and assessments being set and marked by staff with little or no input from students.

The main findings of the investigation were:

i) documents identified life-long development and critical self-awareness as aims of the course;

ii) that students consistently under-rated themselves compared with staff assessments in academic work;

iii) students were positive with regard to self-assessment

iv) work-place supervisors and graduates identified similar work-place skills and attributes in the graduates;

and

v) students failed to demonstrate increased ability to self-assess over the three years of the course.

These main findings will be discussed further in the final section. The significance of these results should not be underestimated given that there have been few longitudinal studies and seldom have researchers tracked students from first year at university to first work placement in order to examine the transference of self-appraisal skills.

Section 8 Discussion

The main research methods used in this practice-based research investigation will be discussed before reviewing the research findings. Finally self-assessment will considered in its wider educational and social context.

8.1 Methodological considerations of the study

There are several main methodological considerations regarding this study, namely the research approach by practice-based, the longitudinal nature of the study and the range of research methods incorporated especially regarding the sue of repertory grid interviews.

Considerable insights into self-assessment were gained through the use of several different research methods. In particular, the longitudinal study was found to be extremely valuable in providing a longer-term perspective and the repertory grid interviews provided the opportunity to explore how newly qualified occupational therapists constructed their assessment of performance.

Practice-based research: The practice-based nature of the research does carry risks as the researcher may become overly involved and loose objectively. By focusing so heavily on the applied aspects, theoretical considerations may be overlooked. However, the criticism of research bias as the majority of the students and supervisors known to her does not hold good across all students. However, not all cohorts were equally known to the research and students in university B were completely unknown.

Ultimately it is not possible to prove that there were no researcher or student effects, but this is common to many other educational studies and works undertaken as part of higher research degrees. Resources did not permit the employment of independent assistants, and care was taken in research design to try and minimise research influence.

Moreover there were advantages from the researcher's involvement, such as encouraging completion of questionnaires and detailed knowledge of the context in which the study was undertaken.

Longitudinal study: The prospective longitudinal study spanning four years, enabled three cohorts of students from course entry to graduation to be included in the study. This permitted regular collection of data from the cohorts and resulted in the follow up of the students when qualified. Although other studies have tracked cohorts of students, no other studies were identified where two or more cohorts were included. To the best of the author's knowledge there is no other

self-assessment study which has followed through several cohorts of students for such a period of time. The single cohort studies undertaken previously have only provided a 'snap-shot' in time and have not enabled students' competences to be monitored over time.

Given the exceptional value of this practice-based study, clearly there is need for more longitudinal studies to be conducted within higher education. Ideally this study should be extended to explore what happens in future years. Do individuals become any better or worse at self-assessment? Are there differences between courses, universities and countries?

Other studies have been restricted to specific elements of courses or to specific assessments within courses. Uniquely, this investigation included all academic assessments undertaken by the cohorts, thus enabling a wider view to be taken of students' development of self-assessment skills.

Content analysis: The use of documentary evidence was secondary or perhaps supplementary to the main methods of the study, but proved to be significant in exploring the extent to which course philosophies were put into practice. It is interesting to note however, how only a few other educational studies have examined how course aims relate to course delivery and methods of assessment.

Repertory grid interviews: The repertory grid interviews are increasingly being used in education, management and health care settings as an effective tool to help understand other people's points of view, and to help them understand themselves

better. They are used not only by researchers but also by a range of professionals. The methods strength lies in the fact that they enable individuals to set their own agenda and may minimise researcher influence on interviews. Following interviews with graduates and supervisors, comments from interviewees suggest that the repertory grid technique could be useful within the staff appraisal process.

Repertory grid interviews facilitate effective exploration of an individual's perception, not only of 'self' but also of others and others' perceptions of situations and relationships. In the process this may raise awareness and the consciousness of how, when, why, how often, and to whom they are significant. It may be argued that this method itself promotes personal and professional growth and development (Pollock 1986).

Number and types of constructs identified: Noteworthy is the uncommonly high number of constructs elicited during the interviews, (507 constructs from 30 interviewees). This is considerably in excess of the number produced (double in some cases) in other research using repertory grids. In Morrison's (1991) study of 25 nurses, 200 constructs were produced and Burnard and Morrison's 1989 study of 21 nurses produced 168 constructs. This unusually high response may be a characteristic of the type of individuals involved or the fact that the interviewees knew the researcher and there was a desire to help. It may also relate to the fact that the interviewees may have been more conscious of people generally and relationships within the workplace in particular; it may also relate to the fact that occupational therapy, as a profession, has a psychological / humanistic base.

It is interesting to note that more than half of the constructs identified related to 'personal qualities'. This reflects an important aspect of occupational therapy. It may also have considerably more to do with the personal traits and characteristics which individuals bring with them into the field of occupational therapy or that these qualities are developed as part of the occupational therapy role through the process of socialisation during training. This emphasis on personal qualities may reflect the importance of such qualities in helping to establish therapeutic relationships which patients value so highly (Chesson *et al* 1996).

A large number of professional development activities was identified, for example, 'continuing to develop', 'seeks supervision', 'wishing to learn'. This may indicate that the graduates and supervisors are prepared to learn and assume this developmental role in a responsible way, which is an indication that they are aware of the need for life-long learning.

The categories generated enabled closer exploration of not only the person involved but also the profession of occupational therapy. Surprisingly, the number of constructs identified by both graduates and supervisors were similar, although the supervisors identified a slightly higher number of occupational therapy constructs.

The use of a self-rating scale within the grid carries certain risks. In particular, could the informants be relied upon to report honestly their self-perceptions when some constructs were obviously value-laden? In this particular study, the graduates and supervisors appeared open and frank in the constructs identified,

they did not appear to be restricted as can be seen in the large number of constructs elicited.

Kelly (1959) dismissed the traditional research requirements with regard to reliability and validity as they relate to repertory grids. He indicated he was more concerned with the consistency of the test rather than its reliability, and with its usability than with its validity. As there is no standard form of the repertory grid, it would be meaningless to make statements about the grid's reliability and validity. The grid's validity has often been taken as 'self-evident truth' due to the underlying reasons for using such a tool.

In summary the methods chosen for this practice-based investigation were appropriate and yielded significant information which would form the basis for modifications, directional change and improve educational practice.

8.2 Main Findings

This study was interesting in many respects, for example the participation rates, the use of repertory grid interviews rather than semi-structured interviews, however, only the main research questions will be focussed on in this discussion, namely students' attitude towards self-assessment especially in contrast to the views of staff; the students' ability to self-assess and their improvement over a period of time, and the relationship between clinical practice and self-assessment.

Relevance of self-assessment to the BSc in Occupational Therapy Courses

The content analysis of course documents revealed that 'self-evaluation' and 'life-long professional development' were seen to be of sufficient significance to be included within the course documentation.

Students clearly saw the need for self-assessment, however it is hard to appreciate staffs' understanding due to the low response rate to the questionnaires. Students and staff clearly identified the workplace as an area in which to practice self-assessment but academic staff would appear to be hesitant with regard to students conducting self-assessment within the academic setting. The enthusiasm shown by students for self-assessment outweighed that of the staff. This relates well to Vaughan's findings (1990) that students were very positive towards student centred-learning and self-assessment and preferred it to teacher centred style of teaching / learning. The academic staff in this study appeared to be hesitant to become involved in students' self-assessment, although they appeared aware of the benefits to students both during their training and in their later professional lives.

New methods of assessment are being adopted by some groups of academics, shunned by others and given a cautious and thoughtful welcome by the vast majority (Gibbs 1995) . Many staff look for confirmation that these new methods will work well, save time and give students a good learning experience. At the same time they need to be convinced that any innovatory practices will be of benefit to students, or at least certainly not disadvantage them (Brown 1995).

The reluctance of staff with regard to self-assessment may again be linked to staffs' fear of 'handing over' too much responsibility to students or it may be that staff are at present over worked and see this as yet another innovation which creates more work. Many staff expressed fear of handing any of the power of assessment over to students (Stefani 1994) and may wish to be 'guarding the gate' with regard to professional entrance. Staff may perceive that there is a need to maintain standards within the professions and regard it as an important part of their educational role. This was reinforced through informal discussion with colleagues.

If staff are to use innovative assessment, they need opportunities to share experiences and good practice, learn from outside experts where appropriate and experiment with new forms of assessment in contexts where they will not be penalised if things do not work perfectly first time. This is part of practice-based research to allow staff the opportunity to try new methods. Higher education establishments need to support staff and such research and to encourage the introduction of innovations. There is evidence of the collection of examples of evidence that demonstrate that alternative methods of assessments are useful and equally demanding of students as traditional methods (Gibbs 1995). There is, however a need to for more formalised and evaluative research with these innovative methods of assessment. The challenge for assessments, such as self-assessment is not only to show that they are equally reliable and consistent as traditional examinations but also that they can be more valid by getting closer to assessing that actual learning objectives rather than assessing what is easy to assess (Gibbs 1995).

Students need especially careful preparation for the introduction of new practices in an area that has such important effects on their current and future well-being. It could be argued that introducing students to self- and peer-assessment early in their academic career will engender a sense of responsibility in students so that, by the time that the grading and ranking of students becomes a crucial matter, such as in final year of undergraduate training, students will be well accustomed to the procedures (Stefani 1994). Cowan (1988) argued that the benefits of self-assessment are so great that students should be trusted to act appropriately, even when there is a risk that there could be differences between the student mark and the staff mark.

In this study, however, there is very little evidence that students are prepared for self-assessment or peer-assessment within the academic components of the course, despite the fact that it was clearly identified as being used in the clinical setting. The use of self-assessment within professional courses may be challenged from the professional bodies as well as within the establishment. The solution to many of the difficulties, which may arise, lies in explicit communication between student, staff and administrators, not only as to why self-assessment is important but how self-assessment can be used within each particular setting and course. Although self-assessment techniques are not easily transferable from one course to another, they may be used in initial discussions.

Various writers have stressed the need for clear criteria when introducing student self-assessment (Boud and Tyree 1979; Cochran and Spears 1980; Falchikov 1986; Boud 1986; Cowan 1988) and how the process of establishing criteria may help to

clarify aims and objectives. In both universities, the use of practice-based material in the form of case studies was very evident from the assessment schedules of both universities, highlighting efforts to help students link theory with practice. Whilst this is to be applauded, students were not involved in setting objectives or criteria for these assessments. There is also a need for students to be directly involved in research projects on self-assessment, thus giving a fuller picture of the process involved.

The element of choice within the course content or assignments appeared limited. The only exception was the element of choice within the literature reviews and in one assignment; students seemed to respond to this factor of control and appeared as a result to be more able to self-assess accurately. As with many professional courses, staff and students are pressurised to cover basic information with limited staff numbers, limited time within the term and limited resources generally.

Self-assessment within work-placements

The course documents do not stipulate where self-evaluation should be developed or practised but it emerged from this particular study that the onus of developing students' self-assessment skills appeared to be placed firmly with the clinical supervisors. Students do need, however, to develop all-round self-evaluation skills, and not just those relating to clinical placements. The self-evaluation system used in occupational therapy clinical placements has developed over the years. Originally students on clinical placements were assessed using a structured set of standards set by the academic staff and clinical staff graded students with no input from students. This has now changed to a method in which the academic staff

provide guidelines for learning objectives within the placements, leaving clinical staff and students to define the specific objectives and criteria related to the student and the placement. So academic staff entrust students and clinical staff to work together in this area of self-assessment, which raises the question as to why the same does not occur within the academic setting. Indeed, the protected environment of the academic setting, where they have peers and tutors to give feedback may be more conducive to self-evaluation rather than a placement of five or six weeks, with a supervisor whom the student has not been met previously and will probably never meet again.

This does raise the question of how students can evaluate the effectiveness of a course if they are not undertaking regular self-assessment to establish if they are achieving the course aims and objectives set.

Students' self-rating ability

In examining the data from this study, general trends were initially explored. The accuracy of students' self-assessment was measured by the degree of congruence between staff marks and students' expected marks. Although there it is debate with regard to the reliability and validity of staff marks this method was commonly used in earlier research and due to the number of students and assessments involved it was considered the most appropriate method of assessing students' self-assessment skills.

In the first assessments the students generally self-rated themselves higher than the staff would have, this may be because they were unaware of criteria to be used as

well as the standard expected for the assessment or indeed within higher education, having come directly from school or colleges of further education. Subsequently this may have had a direct effect on the self-ratings of later assessments where students may have under-rated following feedback received from the first assessment.

The predominant feature of this particular study was that students consistently under-rated their work, with 72% of students under-estimating their performance. If it is accepted that even experts may not always agree on marks and that a range of marks within 5% on either side of the experts' mark is permissible, then more than half, 857 (62%) of the assessments were accurately self-rated, the majority of which (73%) were still under-rated. This is in contrast to Stanton's (1978) findings where 33% of the students evaluated themselves higher than the expert and only 6% of the group under-valued their work and the work of Filene (1969) who also reported students grading themselves higher. It is also contrary to the previous British findings (Boud & Falchikov 1989).

Possible explanations for this consistent under-rating of work may be due to that fact that the majority of students were female, less than 10% of the responses was from male students. Although previous studies which have examined sex differences with regard to self-rating are inconclusive (Filene 1969); Keefer 1971 and Arnold et al 1985) there is some agreement that female students do tend to under-rate themselves more often than male students. The influence of this may have serious implications for predominately female professions such as occupational therapy and as professionals working within multidisciplinary teams.

Students entering occupational therapy education face ever more taxing courses as scientific knowledge expands and increasingly sophisticated equipment is developed. Students are caught up in the struggle to attain increasingly higher levels of achievement as occupational therapy reaches out for parity with the medical and other established professions. Female occupational therapy students may compare themselves to the male-dominated ethos of the medical professions and may consider they are inferior, as the way in which many occupational therapy students are taught to think would also seem to reflect the masculine principle (Kelly 1996). There would also appear to be a greater focus on sciences (the masculine principle) than art (the feminine principle). Some of these issues may be directly linked to self-esteem both as an individual and also as a professional which raises the question as to whether there is a difference between self-concept and professional self-concept and how this may affect self-assessment?

A further unique factor with the three cohorts of students in this investigation is that they were predominately mature students having a much higher average age than other students at the university. Previous work indicates that mature students tended to grade themselves more harshly than young students (Stanton's 1978), for several reasons including that they are less naïve in believing that they have mastered the subject matter (Mueller 1970). Many of the students were female who were returning to education having started a family, so that in addition to the role of student, they would also be maintaining several other roles such as mother or partner. This may have influenced their self-rating as they may have considered that they had not had sufficient time to complete the assessment, several of the

mature students identified 'family circumstances', 'home circumstances' and 'lack of time' as reasons for their performance.

The regional cultural differences may be an additional explanation for why these Scottish results were different from other studies. It was beyond the scope of this investigation to explore the background of students, but the majority were from the local area, which may raise cultural issues. The 'highest marks' expected was a more accurate reflection of the actual mark received, which may be directly linked to students' reluctance to over value their work. It would therefore be interesting to repeat the study in different geographical areas within Britain and in different countries to compare the cultural difference in students' self-assessment. This is an area that requires further exploration and was beyond the scope of this particular investigation.

The question concerning students' ability to self-rate was examined using the average correlation between the students and the expert's ratings as this was viewed as the only method of assessing students accuracy in self-assessment within the time available. Overall the data suggest a moderate agreement between self and expert rating (tutor) exists ($r = 0.32$). This is similar to correlation found in studies of medical students by Cochran and Spears in 1980. In looking generally at the individual cohorts of students different trends are obvious and it has therefore been an important element of this study that three different cohorts were used. Boud et al (1986) also found inconsistency in students' self-assessment ability to improve over time. This question regarding consistency over time has not been explored fully to date.

An interesting finding from this investigation was that a number of students predicted that the work being handed-in was not worthy of a pass-mark. This may be understandable in the case of an unseen test or following a three-hour examination and may be due to stress and anxiety of the situation. However, several students recorded a below pass-mark for course work when there was sufficient preparation and planning time prior to submission. This may be linked to the fact that the researcher was also the marker for some of the assignments being handed in and students were perhaps erring on the side of caution and not wishing to appear over confident.

Transferability of self-assessment skills to workplace

This investigation alone among the self-assessment studies has attempted to address the issue of transferability of self-assessment skills within the academic setting to that of the workplace. The repertory grid study was of a small and perhaps unrepresentative sample of occupational therapy graduates and supervisors. Bias, no doubt would be related to the fact that the interviewees self-selected for participation and therefore no generalisations are possible. There may also be bias related to the fact of the face-to-face interview situation and fact the interviewer was well known to all graduates and the majority of supervisors. The content analysis of the constructs provides a detailed picture the of qualities and skills of occupational therapists and occupational therapy in Scotland. Nevertheless the results which have been obtained through the use of the personal construct approach warrant further investigation.

The closeness of perception by the paired repertory grids interviews gives rise to speculation as to why this was found between therapists newly qualified and therapists who have been working for several years. One explanation both relates to clinical placements, 'anticipatory socialisation' and ongoing socialisation since starting work. Nevertheless, it must be recognised that many of the graduates who were interviewed were mature and had previously worked in health care settings which may be a factor which has influenced the results and research participants who had not worked prior to training might produce a different set of categories. Further research is needed into this area.

The graduates were viewed very positively by the supervisors as were the supervisors by the graduates. Caution is needed in interpretation, however, since this may reflect more on the manner in which participants were self-selecting.

Unlike Thornton's study (1980), here it has been found that the repertory grid interviews revealed that graduates and supervisors had similar perceptions of work relationships and role-style. This may again reflect the underlying working relationships which occupational therapists form not only with patients but also with other work colleagues. It does however, raise the question of when and how the students gain the skill of self-assessment.

Several studies identify the important of self-assessment within work placements as this is more likely to lead to independent students who are able to ensure continuing self-development in their later careers (Bondy 1983; Malek 1988; Pavlish 1987). Staff who reflect on their own self-development are more inclined to be reflective practitioners generally, continually considering decisions being

made with regard to practice (Schon 1983; 1987). In addition, such staff may also be more aware of the development of other staff, be willing to participate openly and freely in staff appraisals and able to undertake supervision and appraisal with junior staff more effectively.

8.3 Relationship of present findings with higher education

Higher education has traditionally been allowed, indeed expected to pursue its work irrespective of the wider social setting. The image of the 'ivory tower' is a familiar one with higher education viewed separate from social, economic and political activity. In the past, academic staff were entrusted to make decisions regarding the nature of students' educational experience of their students and to consider their vocational needs. The recent radical changes which tertiary education has undergone can perhaps be visualised in the image of higher education being thrust out into the world. It is no longer viewed as an activity separate from society, on the contrary, higher education is increasingly being incorporated into the maintstream with links being formed and strengthened between education and industry (Barnett 1994). These have resulted from economic constraints and changing government policies. This change is well reflected in the government white paper of 1992:

'The achievement of greater commercial and industrial relevance in higher education activity depends on much closer communication between academic staff and people in business at all levels (Department of Education 1992).

At the same time, there has been increasing emphasis on quality assurance, competence and accountability. Professionals and academics are attempting to cope with these external pressures and yet maintain high standards of educational practice. Staff therefore have to become involved in practice-based research where they investigate work-situations, as participants would be able to monitor their own educational practices, making changes based on these observations and then re-evaluate within the work-place.

Higher education and the link with the workplace

Occupational therapy as a profession entered higher education in the 1980s, having started life as a practice-based discipline as courses were established in the workplace, as described in Section 2. Although occupational therapy has moved into higher education, it still retains its very strong association with the health and social care 'industry'. This link has been maintained and is clearly seen in the input expected from clinical staff on course reviews, course-planning meetings and in the wider issues of national curriculum design within the professional association. Clinical staff take a very active and positive role in the assessment of students during placements.

The educators of health care professionals have always formed a close association with the clinical workplaces. All students have to undertake workplace attachments of varying lengths. Many of the professional associations stipulate the actual numbers of placement hours that must be completed by students prior to qualification. Courses such as nursing, medicine, and social work have long

traditions of these work placements being assessed, whether formatively or summatively. Medical students undertake placements in fifth year; these are assessed using vivas with students discussing prepared case study material. Students receive only formative feedback on their performance within the actual placement. By contrast, within occupational therapy there has always been the requirement for students to complete a minimum of 1,000 summatively assessed hours of clinical placement in order to sit the final examination and prior to competence to practice. Occupational therapists, both academic and clinical, have worked together for years to develop criteria and objectives relating to work placements; they have however been slower to publish this work and to share this knowledge with other disciplines. When so many courses endeavour to establish links with industry and to design work-based assessments, it is of no little interest that it is well established within occupational therapy.

A significant shift in higher education evident from the 1980s is the recognition that individuals and organisations have to consider how a workforce is to be created which can face the challenges of the future (Beard & Hartley 1986). Employers have emphasised the need for graduates to have personal, transferable skills and qualities; people who are capable of taking decisions and who are self-aware and can communicate rather then just having basic knowledge (Mayer 1992). Therefore research based on work-practices which constantly monitors what is happening to individuals and also organisations is essential as this study has shown, drawing together the many different aspects of one situation from the academic setting to the views of both students and staff.

Changes in the demand for different types of skills have also been linked with the recognition that the working environment is also radically changing. It is unlikely that students of today will be in the same employment for the whole of their working lives. They will need to train and retrain, they will need to flexible and adaptable; to know how to learn so that when they no longer have teachers to help them, they will be able to continue to learn. Education is no longer thought of as something which can be completed once the qualification is gained. The rhetoric of lifelong learning has developed into the expectation that education carries on throughout life.

Independent learning and self-assessment

Literature on student assessment highlights the belief that traditional assessments are good at testing knowledge, but not understanding or integration across subject areas (Heywood 1978; Heron 1988). The making of professional judgements about the ability and progress of health students through the use of written test techniques facilitates the collection of information about the students' theoretical knowledge. Methods such as essay questions and problem solving exercises might facilitate insight into a student's understanding of underlying principles, but these methods have the disadvantages of measuring only what the student says he / she will do (Hepworth 1989). Entwistle and Entwistle (1991) have drawn attention to how little is known about the nature of understanding. When students make an assessment of whether or not they have understood an idea, they engage in a process of self-assessment. Only through their *own* reflection on and evaluation of their *own* understanding does the adequacy of students' understanding come to

light. Students therefore need to become independent learners who are able to plan and organise their own learning and not wait to be directed by academic staff (Boud 1986). This means there must be a change in direction for academic staff, from being in control to being a helper, director and facilitator of learning.

It is to be expected that there will be some resistance to changes in teaching and learning, the most dominant and immediate being led by academic and administration staff, who may have many and varied reasons for their response. A common and natural concern of academics is that standards would fall on the introduction of an alternative method of teaching and learning. There is, however, evidence to suggest that the level and standard of work is more often higher in independent students than would be expected from students on conventional courses at comparable stages (Jacobs 1996). Lying behind this anxiety is perhaps the assumption that levels and standards are judged in terms of the criterion of the traditional courses; criteria may have to be changed as the teaching and learning methods evolve. The outcome of independent learning must be judged at least as much in terms of the acquisition of skills and abilities as of the acquisition of factual knowledge. It is assumed also that the independent learners would be 'left to themselves' but independent learning is not synonymous with learning in isolation. Students have a tutor and probably a group with whom they can plan and discuss work. The tutor acts as a resource, and a counsellor, who helps the students towards their own ends.

Some staff may consider that students are not capable of working independently, based on the assumption that students lack the knowledge and skill from which to

work independently. Yet after three or four years, these same students, now graduates entering the professions, are expected to be capable of a very high degree of autonomy (Boud 1989). To expect students to have the skills and to function successfully in the very early stages is unrealistic, but all need help and encouragement in developing abilities over time. This means that skills and attitudes appropriate to independent study are likely to be promoted by allowing students to experience some autonomy as early as possible during the course of study. The attitudes and expectations of students about what is expected of them and what are the usual methods of teaching and learning, seem to be firmly established as soon after they enter the new and unfamiliar world of higher education. If part of the normal pattern of activity includes elements of independent study, the later introduction of the 'real independence' is likely to be much easier, and will not be so likely to be regarded as deviant. The introduction of independent learning brings with it the need of self-assessment; and there is no one better placed to assess the independent learning than the learners themselves (Boud 1986).

Self-directed learning and self-assessment

The move to more innovative teaching and learning methods such as student-centred learning thus brings with it the issue of self-assessment that has not been formally recognised in most courses within higher education, despite its significance for learning. Students have always questioned themselves 'How am I doing?' 'Is this right?', yet many do not see this as an important element of formal assessment. Before handing in an essay or report, many will have formed some notion as to its quality. Medical students have traditionally practised drawing

diagrams to check their understanding; other students make lists to check knowledge. In addition, staff may in the course of a personal tutor group or clinical placement visit ask students 'How do you think you are doing?' or 'How are you coping with the course?' All these are forms of self-assessment, although ad hoc ones. While they appear peripheral to formal assessment procedures, they are a commonplace part of learning. There is good reason, therefore, for self-assessment being more systematically organised and becoming formally embedded in education. At the same time more practice-based research is needed to establish its efficacy. This study has demonstrated how little is known regarding the self-assessment process in occupational therapy.

Self-assessment extends beyond students grading their own work; it requires also their involvement in the processes of determining criteria by which work is judged especially with regard to quality. It requires students to establish the characteristics of, for example a good essay, and help develop criteria for assessment. Students can be credibly involved in determining or discussing criteria in all areas. This study indicates that students are willing to be involved, thus making self-assessment part of everyday educational practice. However, it has still to be established if there are some aspects of subjects, either of a highly technical or of a conceptually sophisticated nature in which it may not be practical at introductory levels to involve students in all aspects, such as the development of criteria. It may be undesirable however to remove students altogether from the discussion on criteria as this would exclude them from participation in a core process of learning.

Self-assessment may be beginning to be acknowledged by teaching staff in higher education as an integral part of courses. This is because it is related to one of the central goals of university education: namely enabling students to become effective and responsible learners, who can continue their education without intervention of teachers or courses. These goals can be seen in the two occupational therapy courses within this investigation, which include objectives such as 'life-long professional development'. Self-assessment is a necessary skill for lifelong learning; it is important that all learners develop the ability to be realistic judges of their own performance and to effectively monitor their own learning. In the protected environment of the university, it is possible for the student to progress without having to plan and organise his or her own learning, but once graduated this is rarely the case. The ability to self-assess is the key foundation to a career as a lifelong learner (Boud 1986). Graduates who develop the skills of self-assessment are more likely to wish to continue their learning, knowing how to do so and monitor their own performance. The specific requirements for monitoring performance will, though, differ from one course to another. Its development therefore represents an important process, which needs to occur in undergraduate education.

One premise which forms a particularly important part of the goal of student autonomy, independence in learning or self-regulation, is shared by the humanistic researchers such as Rogers (1983) and Heron (1988) as well as workers such as Zimmerman (1986) who is strongly cognitive orientated. These researchers consider that for effective learning to take place learners must develop the capacity for monitoring what they do and modify learning strategies appropriately. Indeed

self-monitoring is included in term 'metacognition' used by educational psychologists.

Effective learning also involves learners in being able to influence their own learning rather than waiting for others to do so, namely being proactive. Those who are dependent on the continued input from teachers or work-place supervisors to develop and assess their knowledge and skills will be severely limited in their learning. It is argued, therefore, that it is important to develop self-assessment skills as they are central to effective learning now and for future learning and an essential feature of professional practice or for anyone who undertakes a responsible role in society.

To learn how to learn, individuals must develop the ability to readily assess their deficiencies and competence in knowledge and skills. Evidence of knowledge gaps or skills deficiencies may be obtained from many sources including tests and staff-completed evaluations. However, Rosendahl (1974) believes that because it is linked to self-direction, self-evaluation is more appropriate than some other measures for adult learners, who are considered to be mature, self-motivated individuals. That the students in this study were very positive towards self-assessment may be a reflection of the high proportion of mature students included.

Professional development and self-evaluation

Professional self-evaluation, particularly in the context of formal education, is likely best seen as a set of specific skills that can be taught. Yet little systematic

effort has been made to teach self-evaluation skills to students in professional health sciences education programmes.

Within occupational therapy, the support for educational strategies that are student-centred and problem based learning programmes is evident (Jacobs 1997). Several articles describe the introduction of teaching methods that facilitate the active involvement of students in learning, such as educational gaming (Robert 1993), the developmental model of skill acquisition (Alsop 1983), problem-based learning (Sadlo et al 1994) and self-directed learning (Warrender 1990). Others support self-directed learning with respect of the development of analytical thinking relevant to practice, based upon literature review (Hollis 1991, Munroe 1993; Stewart 1994). Recurrent themes are evident in literature regarding the effectiveness of student-centred learning, its implementation and the nature of interaction between students and educators.

The evidence from education literature is that educationalists are becoming increasingly critical of higher education. In particular it is seen to wish to encourage students to learn at a surface rather than a deep level (Cohen 1985; Entwistle et al 1989; Jackson and Prosser 1989). There is an obvious need for more practice-based research within these areas to identify good practice and dissemination of such information.

The review of the Professions Supplementary to Medicine Act 1960 (Craik 1997) has raised issues relating to competency to practise. In response The College of Occupational Therapists devised a portfolio system. This is similar to that set up by

the Royal College of General Practitioners and its aim is to ensure that therapist undertake continuing learning. This approach requires that occupational therapists identify their current work situation, achievements and capabilities and then consider their objectives, development plan and progress; thus self-assessment is an essential and integral part of the process. These skills will need to be gained early so that practitioners are proficient later in their careers.

The occupational therapy profession has quietly adopted and developed many new concepts within educational spheres. Perhaps these have had low visibility because occupational therapists have been slow to share these developments with a wider audience and publish the results of their research. The workplace as an important part of the learning experience of student with workplace supervisors playing a vital role in the assessment of students. This is perhaps something that other disciplines could well consider.

8.4 Study outcomes

This practice-based investigation sought to investigate *'the extent to which self-assessment was integrated within the occupational therapy courses?'*. From the data collected it would appear that self-assessment is integrated within the course but the emphasis is within the clinical placements but not the academic components of the courses. The second and third questions which this investigation addressed were '*are occupational therapy students able to assess themselves accurately and precisely?'* and '*is there progression in self-assessment skills during the three years of the courses?* The data collected would indicate that Scottish occupational therapy students consistently under-rate their academic ability, although the majority of students were within 5% of the mark awarded by the staff. Although one cohort of students did appear to improve their self-assessment ability over the three years, the other two cohorts did not follow a similar pattern, therefore no clear conclusions can be drawn. The final question asked *'is there transferability of these self-assessment skills to the workplace?'* as both students and staff identified that self-assessment was a large component of the assessment of clinical placements it was perhaps not surprising that self-assessment skills would appear to be transferable into the workplace.

This investigation has demonstrated the need for self-assessment to be more articulated thus leading to increased awareness for self-assessment on the part of staff. The work undertaken for this PhD has itself raised the profile of self-assessment in occupational therapy in Scotland and indeed in the occupational therapy profession itself.

9 Conclusions

The concept of self-assessment became popular in the early 1970s and has since gained acceptance as a generally desirable, and in some cases, essential skill of a professional person. There are sound educational arguments for asking, or requiring students to engage in self-assessment. As mentioned earlier, these arguments would appear to have more to do with the development of autonomous, life-long learning than with obtaining grades.

Reasons already cited for engaging in self-assessment include promotion of professional development, the enhancement of self-esteem, and the devlopment of self-awareness. Yet in spite of its widespread acceptance as a highly valued skill within occupational therapy and other professions, little systematic effort has been made to understand or to teach this process. For too long the caring profession including occupational therapy, have expected new graduates to know how to self-evaluate without any formal training. A close examination of self-assessment suggests that it is a complex developmental skill that requires instruction and practice before it is performed satisfactorily.

Based on the evidence presented here, it should be possible to change practices related to students' self-assessment and there is value in students undertaking self-evaluation throughout their courses. Assuming that a goal of the independent practitioner is the ability to establish criteria, collect data, make judgements and decisions and to take appropriate actions, students should be assisted to move from

dependence (student stage of learning) to independence (the professional stage of learning) by carrying out the self-evaluation process on their own.

9.1 Recommendations

<u>In respect to higher education generally</u>

It is recommended that:

1. there is more research to examine areas in which student assessment can be used reliably within higher education;
2. further investigation takes place regarding the variables that influence 'accuracy' of self-assessment;
3. further research is carried out regarding the influence of training or time on the accuracy of self-assessment;
4. the role of self-assessment in formative assessment is debated;
5. the role in peer-assessment in facilitating self-assessment is investigated in the near future;
6. more longitudinal studies are funded;
7. students be involved in the setting up of research projects on self-assessment;
8. innovations in self-assessment be monitored and shared more widely through the higher education community.

<u>In respect to health professionals' education</u>

It is recommended that:

1. investigation regarding the transferability of skills from academic course to work-place be undertaken;
2. more longitudinal studies regarding health and social care courses be funded;

3. the design of health professionals courses should make more explicit the learning process associated with self-evaluation.

<u>In respect to occupational therapy education</u>

It is recommended that:

1. staff review the validity of present assessments procedures and continuing professional development with regard to the aims of courses;
2. a range of self-assessment techniques be piloted;
3. a review of methods of teaching and assessment is undertaken;
4. the continued use and expansion of techniques such as profiling, reflective diaries and negotiated assessment within clinical placements and their extension be considered.

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Appendix I

Self-assessment Skills Questionnaire

General Instructions:

Please respond to each question on this questionnaire, either by placing a tick the box provided ☐ or by writing brief comments.

To maintain complete confidentiality please do not put you name on this questionnaire

1. Please describe in your own words what is your understanding of Self-Assessment.

2. Do you use self-assessment skills?

Yes ☐ No ☐

3. Are you encouraged to 'practice' self-assessment skills as any part of your degree course?

always ☐ often ☐

infrequently ☐ never ☐

4. Within which areas(s) of your course **do you use** self-assessment skills? You may tick more than one box.

academic studies ☐ clinical placements ☐

practical courses ☐ never use ☐

other (please specify)

5. Do staff encourage students to use self-assessment skills?

Yes ☐ No ☐ Don't know ☐

(IF YES GO TO QUESTION 6; IF NO GO TO QUESTION 9)

6. If YES which staff are involved. You may tick more than one box.

tutors (generally) ☐ tutors (personal ☐

clinical supervisors ☐ other (please specify)

7. Within which areas of the course are students encouraged **by staff** to practice self assessments skills? You may tick more than one box.

academic studies ☐ clinical placements ☐

practical subjects ☐ never use ☐

other please specify

8. What form does self assessment take i.e. which methods do you use within your occupational therapy course? You may tick more than box.

student self profiles ☐ reflective diaries ☐

portfolios ☐ academic assessment ☐

peer assessment ☐ other (please specify)

9. Do you think self-assessment should be part of your undergraduate course?

Yes ☐ No ☐ Don't Know ☐

(IF YES GO TO QUESTION 10; IF NO GO TO QUESTION 12.)

10. Given the following definitions, do you consider self-assessment should be part of **formative** or **summative** assessment?

Formative formative evaluations are carried out part way through the course to check on student progress, the results are typically **not** used for assigning course grades.

Summative Summative evaluations take place at the end of a course (or unit) of instruction, and indicate whether or not the student has successfully achieved all aims / objective of the course. (Gronlund 1985)

Formative ☐ Summative ☐ Both ☐ Neither ☐

Please state reason for answer

11. At what stage should self-assessment be introduced into the course?

1st year ☐ 2nd year ☐ 3rd year ☐

12. Tick **one** word from **each** of the pairs of words which would indicate your feelings about students conducting self-assessment as part of their undergraduate course.

negatively	☐	positively	☐
confident	☐	anxious	☐
favourably	☐	unfavourably	☐
disinterested	☐	interested	☐
pessimistic	☐	optimistic	☐
comfortable	☐	uncomfortable	☐

13. Do you consider self-assessment as a skill for the qualified occupational therapist to be ...

essential	☐	necessary	☐
unnecessary	☐	irrelevant	☐

Appendix II

Research questionnaire

Please answer the following questions, the information is confidential and will be used for my research study only.

The questions should be answered with regard to **the assessment** which you have just completed.

Identification Number « 1»

Thinking about your assignment:

1. What mark do you expect to get .....%

2. Which <u>TWO</u> of the following did you use in deciding the mark in question 1. (Please circle your response)

   a) the amount of effort I put into the assignment *too little / *too much.

   b) equal to previous assignment marks

   c) what other people expect me to get

   d) it is *better / *worse than my last assignment

   e) I *liked / *disliked the topic

   f) school report marks

   g) I feel it is a good piece of work

   h) I am not pleased with this assignment

   i) Other (please specify)

3. What is the lowest mark you think your assignment deserves?

   .....%

4. What is the highest mark you think your assignment deserves?

   .....%

(*please delete as appropriate)

Thank you for your help

Appendix III

Subject questionnaire

Survey of subject's background

Please answer the following questions: CODE NO:

1. Staff grade

Basic grade
Senior II
Senior I
Head
Other (please state)

_____

2. Place of work (please state) _____

3. Clinical area of work _____

4. Do you work as part of a Multi-disciplinary team YES / NO (please circle)

5. Sex

1. Male
2. Female

6. Age now _____

7. How long have you been working as an occupational therapist? _____

8. Length of time in current post _____years _____months

9. Which training did you undertake?

1. Diploma
2. BSC/OT
3. BSC/OT (Hons)
4. Conversion course
5. Other (please specify)

_____

10. Did you work prior to training as an occupational therapist? YES / NO

If YES please state briefly the nature of work _____

_____

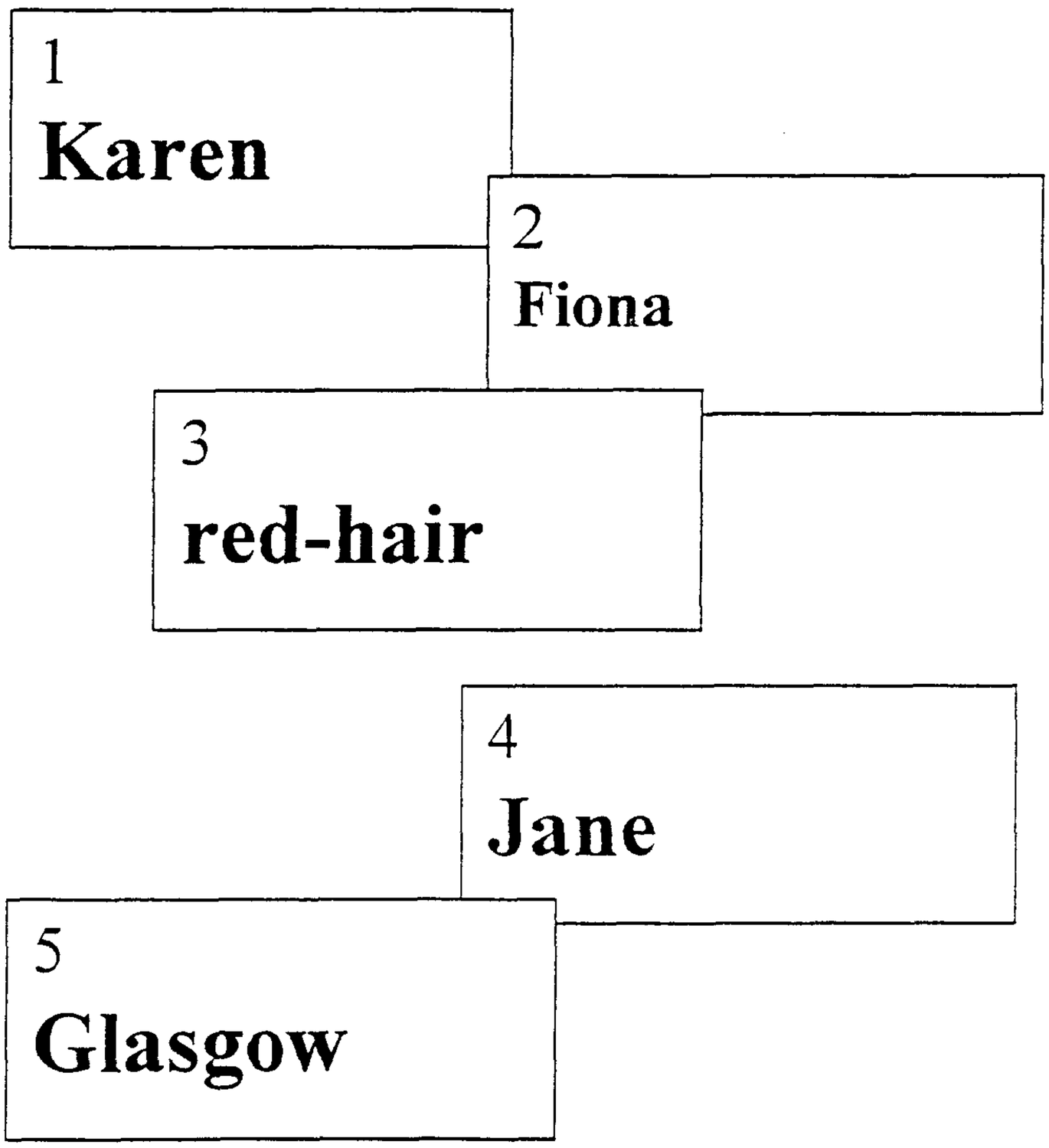
_____

11. State briefly what you consider to be the most important elements in good occupational therapy

_____

_____

Examples of elements produced



Protocol for presenting elements

Elements 1 2 3	1 **Karen** 2 **Fiona** 3 **red-hair**
Elements 1 2 4	1 **Karen** 2 **Fiona** 4 **Jane**
Elements 1 3 4	1 **Karen** 3 **red-hair** 4 **Jane**
Elements 1 2 5	1 **Karen** 2 **Fiona** 5 **Glasgow**
Elements 1 4 5	1 **Karen** 4 **Jane** 5 **Glasgow**
Elements 1 2 3	1 **Karen** 2 **Fiona** 3 **red-hair**

Example of completed repertory grid

	1[1]	2[2]	3[3]	4[4]	5[5]	
Constructs (1)*						**Constructs (5)***
Life experience	3	5	3	3	5	*Immature*
open	4	5	4	5	3	*Closed*
Shows initiative	4	5	5	2	4	*Lacking initiative*
Self assured	4	5	5	5	2	*Lacking assurance*
serious	3	3	3	5	4	*Light-hearted*
organsied	5	5	5	1	3	*Disorgansied*
determined	4	5	4	1	3	*Weak-willed*
sensitive	5	5	5	2	4	*Indifferent*
dynamic	5	5	5	1	4	*staid*
confident	4	5	5	5	2	*insecure*
flexible	5	5	5	1	4	*rigid*
Gentle approach	4	5	4	1	4	*Abrasive approach*
Takes initiative	5	4	5	1	3	*apathetic*

* *Scale 1 = positive bi-polar / 5 = negative bi-polar*

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[1] Subject = Karen
[2] Supervisor = Fiona
[3] Best Occupational Therapist = red-hair
[4] Worst Occupational Therapist = Jane
[5] Student Occupational Therapist = Glasgow

Academic Development Profile

This self-evaluation profile will enable you to reflect and evaluate the extent to which you are gaining confidence in each of the suggested areas. You should insert in the evaluation column a comment which shows the level which you believe you have reached in your development. You should use the example to help record your level of development. You will find it useful to share your self-evaluation with your personal tutor for example twice during first year and once a year there after.

Competencies	My self-evaluation of achievement
Academic Subjects / Learning *"I am coping with clinical sciences but I am struggling with social studies - it is all so new. I like professional skills"*	
Communication skills *"I am becoming confident in talking in small groups but do not like talking in large groups - in front of the class"* *"I think I communicate clearly and precisely in a pleasant manner and listen to other's point of view"*	
Self Management *"I still find it difficult to organise my free time between classes - I could make more use of this time"*	
Professional Development *"I am becoming more confident in using and sharing my observations"* *"I am becoming more confident to ask questions and seek help"* *"I am gaining confidence in building up relationships with clients and staff"*	

Other comments:

Student Self-evaluation

The Way Ahead

Areas I would like to discuss with my personal tutor
Agreed goals for the future
How I will work towards the agreed goals

Student .....

Date .....

Tutor .....